DRI #2149

RADIANCE OF THE EARTH IN SELECTED WAVELENGTH INTERVALS AS OBSERVED FROM HIGH ALTITUDES

David G. McCray

University of Denver
(Colorado Seminary)

Project 4479
Task 447901

Contract AF 33(616)-7633

FINAL REPORT

March 31, 1964

Prepared For

AIR FORCE CAMBRIDGE RESEARCH LABORATORIES
OFFICE OF AEROSPACE RESEARCH
UNITED STATES AIR FORCE
BEDFORD, MASS.

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ABSTRACT

This report presents the data concerning the radiance of the earth in the 2.7 μ and 4.3 μ wavelength region as observed from an altitude of 31 kms. These data were obtained on a number of balloon flights made with an automatic radiometer system. The results are compared with the results predicted on a theoretical basis. These comparisons indicate fairly good agreement with some of the theoretical results; however the maximum radiances observed in the 2.7 μ region exceed the predicted radiances by several orders of magnitude.

1. INTRODUCTION

The infrared radiation background presented by the earth and its atmosphere when viewed from high altitude is an important parameter in the design of many infrared systems. This background radiation arises from sunlight scattered by the molecules and particulate matter in the atmosphere; from sunlight reflected by the surface of the earth and clouds, etc.; and from the radiation emitted by the earth and its atmosphere. The emitted radiation is much less intense than the scattered and reflected sunlight at most wavelengths short of 3.0 μ, whereas the emitted radiation predominates at wavelengths greater than 5 μ.

It is possible to arrive at fairly good estimates of the value of the radiance at some wavelengths on the basis of theoretical considerations and measurements made on the ground. At other wavelengths, particularly those associated with the intense absorption bands that occur in the infrared, it is possible that such estimates may be in error by several orders of magnitude. The purpose of the present study was to obtain data concerning this radiance at various wavelengths under varying meteorological conditions and various conditions of solar illumination.

Data of this type were obtained through a series of balloon flights with an automatic radiometer system equipped with filters that passed radiation in selected wavelength intervals. These flights were made at a number of locations and under various meteorological conditions. The results obtained on the individual flights have been presented in previous reports on the project. The results obtained on all flights have been analyzed as a group and these combined analyses are presented in this report.

2. INSTRUMENTATION

The instrumentation consists of an automatically programmed scanning radiometer capable of balloon operation, auxiliary instrumentation to provide the data necessary to determine the radiance being viewed and the direction from which the radiometer is receiving the radiation, a recording system for recording the data generated, power supplies for accomplishing the various operations and finally a gondola which provides a platform from which the radiometer can scan and which also provides protection for the instrumentation when it impacts after the balloon flight. These units are described in detail below.

2.1 Radiometer

The radiometer consists of a Cassegrainian telescope 8 inches in diameter with a focal length of 12 inches. Scanning is accomplished by rotating a plane mirror located at the front aperture of the telescope. The normal to this mirror makes an angle of 40° with the optical axis of the telescope. During the balloon flight the radiometer is depressed so that its optical axis makes an angle of ten degrees with respect to the horizontal. As the plane mirror rotates, the field of view of the radiometer is rotated resulting in a conical scan in elevation traversing the nadir but displaced 20° from the zenith. Azimuth scan is accomplished by rotating the radiometer with respect to a base plate which is fixed with respect to the gondola. The position of the elevation mirror is controlled by means of a stepping relay and a series of microswitches. By adjusting these units it is possible to rotate the mirror sequentially through eleven positions. The azimuth scan is limited to 180° by microswitches which reverse the direction of rotation of the azimuth drive motor. Pulses from these microswitches are used to step the plane mirror to its next position. Thus successive azimuth scans are made at different elevation angles.

The incoming radiation is interrupted eighty times per second by means of an eight bladed chopper. The radiation then passes through an optical filter which is mounted on a filter wheel that is coaxial with the chopper. The filter wheel has spaces for twelve filters. After the radiometer has scanned in azimuth often enough that the plane mirror has stepped through all of the eleven positions that it can occupy, the filter wheel is advanced to its next position and the scans are repeated with the new filter in place in front of the detector. The transmission curves for the filters used on the flights are given in Figures 1 - 5. Nine different filters were used on these flights; the remaining positions were fitted with duplicates of the filters used in other positions in the wheel. Thus the filters used in positions 6 and 7 are duplicates of those used in positions 1 and 2. Filter 12 is an opaque plug used to test the system noise.

A shutter is placed between the detector and the chopper. Whenever the field of view of the radiometer comes within 2° of the sun, a photon detector located on the secondary mirror of the Cassegrainian system activates a solenoid that rotates the shutter so that the incoming radiation cannot reach the detector.

For the flights described in this report, the radiometer was equipped with a cooled InSb cell as a detector. The detector size was 0.40mm x 0.40mm which gave the instrument a 1.3 milliradian square field of view. The detector was housed in a dewar that had sufficient capacity to keep it cool for a period in excess of six hours. The dewar was filled with liquid oxygen just prior to each flight. Liquid oxygen was used rather than liquid nitrogen in order to avoid the problem of pressurizing the dewar. Pressurization is necessary if liquid N_2 is used in order to keep the nitrogen from freezing at the higher altitudes. The detector was housed in a black body cavity. As the chopper interrupts the incoming radiation, the detector gives rise to an a.c. voltage that is proportional to the difference between the incoming radiation and the radiation from a black body at the temperature of the black body cavity. This black body is not maintained at a constant temperature but is allowed to assume an ambient temperature and the temperature is monitored. The a.c. signal from the detector is amplified, synchronously rectified and electronically filtered. The use of synchronous rectification makes it possible to determine whether the incoming radiation is greater or less than the radiation from the reference black body. The rectified output voltage is added to a constant bias voltage so that the signal voltage presented to the recorder occurs as a positive voltage between zero and ten volts rather than a positive and negative voltage.

2.2 Auxiliary Instrumentation

Since information is sought concerning the spatial distribution of the background radiation, it is necessary that the direction from which the radiation is being received be known as well as its intensity. In order to determine this direction, the position of the plane mirror with respect to the radiometer, the position of the radiometer with respect to the gondola and the orientation of the gondola with respect to the earth must be known. The positions of the mirror and the radiometer are determined by monitoring the voltage across potentiometers that are coupled to their drive systems. The orientation of the gondola with respect to the earth is determined from the output of two magnetometers whose probes are placed at right angles with respect to each other. By using two probes in this fashion, it is possible to uniquely determine the position of the gondola with respect to the earth's magnetic field.

2.3 Recording System

In addition to the quantities mentioned above, it is also necessary to monitor the temperatures of the reference black body, the position of the filter wheel and the time of day. The temperature of the black body is determined by monitoring the resistance of a thermistor which is embedded in the black body. The position of the filter wheel is determined by means of a stepping relay that steps each time the filter wheel is advanced. The time of day is determined from the position of a precision potentiometer which is driven by a Hayden timing motor. This makes a total of nine quantities that have to be recorded. In order to simplify the recording problem, all of the desired data are obtained by means of transducers that are designed so that the output occurs as a voltage between zero and ten volts. In order to increase the accuracy of the recording and also for ease of data reduction, these outputs are recorded in digital form on magnetic tape. The recording system consists of an analog to digital converter and a seven channel magnetic tape transport. The analog to digital converter samples 10 channels 10 times per second and converts the analog voltage appearing on the particular channel to digital form (binary coded decimal) which is then recorded on the magnetic tape. The output of the detector electronics is put on 5 of the channels so that it is sampled 50 times/sec. The other data are multiplexed and recorded on the remaining 5 channels. The tape transport handles standard 10½" reels and has capacity for 3600 feet of 1 mil thick, ½ inch wide magnetic tape. A tape speed of 2 inches/sec is used for recording which gives a total recording time of 6 hours.

2.4 Power Supplies

All mechanical rotations are accomplished by means of 115 volt 400 cycle single phase synchronous motors. The 400 cycle power is obtained from the main 28 v.d.c. battery pack by means of solid state sine wave inverters. The main power pack is built of 70 amp hour Ag Cd cells designed for a plateau voltage in the vicinity of 26 volts. This means that early in the flight the supply voltage may be as high as 32 volts. All systems relying on this pack for power are designed to operate properly when this voltage is anywhere in the range from 22 v.d.c. to 32 v.d.c. The voltages required for the amplifiers are supplied by separate mercury batteries and dry cells.

2.5 Gondola

The gondola is used to provide a means of suspending the radiometer from the balloon without interfering with its scanning motions and to protect the equipment when it is returned to the ground by parachute. A cantilever system has been used which makes it possible to support the equipment and also to provide protection for the equipment if it is tipped over or dragged by the parachute without interfering with the scan. The radiometer base plate is suspended in the gondola by means of springs. The springs are tied off with light cord so that the radiometer has a rigid base to operate against during flight. Upon impact the strings break and the springs are stretched beyond the elastic limit. This reduces the acceleration to which the equipment is subjected during the landing. A crash pad is also used under the gondola to further reduce the acceleration. The system has worked very well and in spite of the large number of times the equipment has impacted and the fact that it has been dragged on a number of occasions, it has never suffered any major damage.

3. CALIBRATION

The radiometer system is calibrated using a 12 inch aperture, 6 foot in length, cylindrical black body source. The source is constructed from ¼ inch thick aluminum pipe, one end of which is sealed by a circular plate of the same thickness which is heliarc welded to the tube. The interior of the tube is painted with a black paint. The outside of the tube is wound with a wire heating element and the entire system is coated with asbestos insulation. Thermocouples were embedded in the wall of the tube prior to the wrapping process. In use the radiometer is placed so that the black body fills the field of view of the radiometer. The heaters in the black body are then turned on and the temperature of the black body is monitored. The black body heats slowly and the output of the radiometer is noted when the black body reaches certain pre-selected temperatures. This calibration is performed prior to each series of flights and also when the equipment is returned to Denver to make certain that the calibration did not shift during the flight. It is also possible to get an in-flight check on the calibration after the equipment reaches altitude and the radiometer scans above the horizon with the longer wavelength filters in place in front of the detector. Under these conditions the radiance being viewed should be zero to within the sensitivity of the equipment. Knowing the temperature of the reference black body one has a one point check of the calibration curve. In practice these values agree very well with the ground calibrations.

The ground calibration is performed without any filter present in front of the detector. The detector response varied with wavelength and the observed signal voltage is given by

$$V_s = K\left\{ \int_0^\infty N_e(\lambda T_e)S(\lambda)d\lambda - \int_0^\infty N_i(\lambda T_i)S(\lambda)d\lambda \right\}$$

where K is the calibration constant for the system, $N_e(\lambda T_e)$ is the radiance of the laboratory reference source, $N_i(\lambda T_i)$ is the radiance of the radiometer reference black body and $S(\lambda)$ is the response function of the detector. The above integrals were calculated numerically for the temperature range covered in the calibration using response curves supplied by the detector manufacturer. The calibration constant K was determined from the plot of V_s vs $\left\{ \int_0^\infty N_e\ S\ d\lambda - \int_0^\infty N_i\ S\ d\lambda \right\}$. This constant is the average response over all wavelengths to which the detector responds. The filters used limits the radiation reaching the detector to relatively narrow wavelength intervals. In view of this the calibration constant was adjusted for each filter to take into account the average response of the detector over the wavelength interval passed by the filter.

The magnetometers were also calibrated prior to each flight. This was accomplished by placing the gondola with the magnetometers mounted for flight in a number of orientations with respect to the earth's magnetic field and noting the output of the magnetometers corresponding to the various orientations. A number of tests were run with the equipment operating to make certain that the magnetometer outputs were not affected by the normal operation of the equipment.

4. FLIGHT DETAILS

The radiometer system, equipped with the InSb cell as a detector, was flown fourteen times. On two of these flights the analog to digital converter failed shortly after the equipment was launched and no data were obtained. Data were obtained on the remaining flights. The flights have been made from Holloman AFB, New Mexico, and Fairbanks, Alaska. The Alaskan flights were made to obtain data under conditions of low angle solar illumination and also to see if the results obtained under similar illumination conditions differed significantly from those obtained at Holloman. A summary of the details concerning the flights on which data were obtained is given in Table 1. The entries are self-explanatory with the exception of the type of scan. As mentioned in the section on

instrumentation, the radiometer is equipped with a plane mirror which can be programmed to assume a number of predetermined positions. On most flights, this mirror was held constant at a given position while the radiometer was moved around in azimuth. This resulted in a series of scans in azimuth at predetermined elevation angles. On the two flights made in March of 1963, this motion was changed so that the plane mirror rotated continuously as the radiometer scanned in azimuth. The rotation of the plane mirror was limited by microswitches so that the radiometer scanned in elevation from 10° above the horizon on one side to 10° above the horizon on the other side. Thus on these flights data were obtained at all elevation angles whereas on the earlier flights, with the exception of data obtained when the plane mirror was being rotated to a new position, data were obtained at certain fixed elevation angles.

5. RESULTS

The flight data tapes were played back directly into a digital computer where the computations necessary to convert the voltages into radiance versus direction were performed. On most of the flights a total of five minutes was required to complete the various spatial scans with a particular filter in front of the detector. Since the detector output was sampled 50 times, a total of approximately 15,000 radiance values were obtained with each filter every hour of the flight.

The problem of how to present background radiation has been the subject of considerable discussion. Harry Wessely of Aerospace Corporation suggested a method of presenting the data that was followed in the individual flight data reports. In this method of data presentation the average value of the radiance is calculated as a function of azimuth angle from the sun and viewing angle. The r.m.s. fluctuation about the mean is also determined for the same parameters. The mean radiance and r.m.s. fluctuation of the radiance are also determined as a function of scattering angle and viewing angle. In determining these quantities as a function of azimuth, distinction is maintained between azimuth to the right and to the left of the sun. The viewing angle mentioned above is the angle between the balloon vertical and the line of sight of the radiometer system and is 0° when the radiometer is viewing the nadir and 90° when it is viewing the horizon. The data obtained on the individual flights were reduced separately in this manner and reports have been issued containing these individual flight results.

For this report the data obtained with filters 1, 2 and 11 in front of the detector have been combined and various analyses have been performed on these data. For these analyses the data were separated according to the solar illumination. They were further separated to the extent of classifying them as clear or cloudy, based on the weather conditions existing during the individual flights. The mean radiance and r.m.s. fluctuation about the mean were determined for each group of data as a function of sun azimuth, viewing angle and scattering angle. The results of these analyses are presented in tabular form in the Appendix (Tables 2 through 169).

The maximum value of the radiance is a quantity of interest and the above analysis was repeated using the maximum value of the radiance rather than the mean. These results have not been included in this report in the interest of keeping the report to a reasonable size. Selected groups of these data have been plotted in various forms, These results will be presented and discussed in the next section.

6. DISCUSSION OF RESULTS

The major portion of the radiation observed by the radiometer when either filter 1 or filter 2 is in position in front of the detector arises from scattered or reflected sunlight. If solar radiation were incident upon a Lambert surface at the upper limit of the atmosphere the surface would have a radiance of $\sim 180\,\mu$ watts cm^{-2} $ster^{-1}$ in a wavelength interval of 0.15 of a micron around $2.7\,\mu$ such as the intervals passed by filters 1 and 2. These figures represent the upper limits of the radiance that the radiometer could observe if the radiation viewed arises from diffuse reflection. These filters were chosen because their wavelength region of transmission lies in the $2.7\,\mu$ atmospheric absorption band. As the infrared solar radiation in this spectral region traverses the earth's atmosphere part of the radiation is scattered by the particulate matter present in the earth's atmosphere and part of it is selectively absorbed by the H_2O and CO_2 present in the earth's atmosphere. Eventually the radiation impinges on a cloud or the surface of the earth when it is reflected or absorbed. Examination of solar spectra obtained at various altitudes above the earth's surface as reported by Murcray, Murcray and Williams[1] indicate that very little solar radiation in the region where filter 2 transmits will penetrate the atmosphere to altitudes less than 30,000 feet. In the case of filter 1 a significant portion of the radiation which it transmits will penetrate to altitudes as low as 20,000 feet. In neither case should any significant amount of solar radiation in the region which the filters

transmit penetrate the atmosphere to much below 20,000 feet. Thus the radiation which the radiometer receives when these filters are present in front of the detector must arise from sunlight scattered by particulate matter or reflected by clouds at the higher altitudes in the earth's atmosphere. In many theoretical treatments it has been assumed that clouds will act as perfectly diffusing surfaces in the infrared. Deirmendjian[2] has treated the problem of the scattering of infrared radiation by water droplets of various sizes. Bauer,[3] Deirmendjian[2] and Bartky[4] have applied these results to the problem of angular distribution of the radiation reflected by clouds particularly in the region around 2.7 μ. These studies show that a cloud does not act as a perfectly diffusing surface at these wavelengths but rather that it will exhibit a marked anisotropy with the maximum radiance occurring for small scattering angles. Bauer[3] states that for scattering angles greater than 60° the cloud surface will appear approximately uniform in the infrared; however the albedo will be low ($\sim$5%). While the scattering of infrared radiation by particulate matter is in principle a much simpler problem, it has not received the attention cloud scattering has received. The discovery of a layer of increased density of particulate matter in the vicinity of 20 kms by Junge and coworkers[5] and verified by Newkirk and Eddy[6] indicates that this type of scattering may be important in these wavelength regions since these layers are high.

On the basis of the above discussion, it is evident that the radiances observed by the radiometer will depend on the elevation or viewing angle, the scattering angle, and the solar insolation angle. The radiance values observed on any one balloon flight will depend on the type, altitude and distribution of clouds at the time of the flight. If data from a number of flights are combined, the individual flight variations due to the distribution of the clouds will average out. By studying the average values of the radiance as determined from all the flight data, it would, in principle, be possible to arrive at functional relationships between radiance, solar insolation angle, viewing angle and scattering angle. Unfortunately the sample obtained during this program with any one filter was not sufficient to eliminate the fluctuations due to the distribution of clouds. This is demonstrated in Figure 6 which shows mean radiance versus scattering angle for a given solar insolation angle and various elevation angles. Since the atmospheric path traversed by the radiation in reaching the radiometer is a function of the elevation angle one could expect the radiance observed at a given scattering angle to be a monotonic function of elevation angle. Examination of the data indicates considerable crossover of the elevation curves indicating that the sample is not large enough to determine the functional dependence on elevation angle.

Although the fluctuations are too large to allow one to determine the functional relationships between the various variables, it is still possible to compare the results obtained with those predicted theoretically. Bauer[3] calculated the scattering from a large planar cloud at 2.7 μ for various values of the solar insolation angle. The mean radiances observed at a given scattering angle for various elevation angles were averaged and the average radiance was plotted against scattering angle for a number of insolation angles. These results for filter 1 are plotted in Figure 7. The results given by Bauer[3] are plotted in Figure 8. Comparison of the figures indicates general agreement between the theoretical and experimental results including the fact that for a given scattering angle the radiance observed at large insolation angle is less than that for smaller insolation angles. Similar results for filter 2 are presented in Figure 9. Although these data show some agreement with the theoretical results, the range of radiances observed is not as great. This is undoubtedly due to the extreme atmospheric absorption suffered by radiation in this region.

Bauer, Garwood, Jameson, Johnson and Wyatt[7] give isoradiance plots of clouds based on the calculations similar to those reported above and including the effects of atmospheric transmission. These results are given for the region between 2.65 μ and 2.80 μ, i.e. the region which filter 2 transmits. The results exhibit an extreme peaking of the radiance in the direction of the sun. The radiances given for the case of an insolation angle of 90° and a transmission of 0.5 (assumed typical) varies from a maximum of $3.5 \cdot 10^{-7}$ down to $2.2 \cdot 10^{-11}$ watts cm^{-2} $ster^{-1}$. The average values of the radiances observed on cloudy days with filter 2 with a solar insolation angle of 90° are presented in the form of an isoradiance plot in Figure 10. The maximum radiance observed in this case is considerably greater than predicted theoretically. The isoradiance lines show considerably more structure than the theoretical calculations as would be expected. The radiometer system noise level on most flights was equivalent to a radiance of 0.2 microwatt cm^{-2} $ster^{-1}$ and the observed radiance over a great deal of the region scanned by the radiometer was less than this value. Thus it is not possible to compare the range in observed values with the range in theoretical values. Similar plots for insolation angles of 70° and 50° are given in Figures 11 and 12. Isoradiance plots are also given for the data obtained with filter 1 and solar insolation angles of 90°, 70° and 50° in Figures 13 through 15.

In all of the above analysis the mean value of the radiance is the quantity that has been plotted. In many situations it is the maximum value of the radiance that is of interest. In view of this the data were also

analyzed so as to determine the maximum value of the radiance rather than the mean. The values presented here are more apt to be in error since the maximum is determined on the basis of one reading; hence any erroneous value that might be included in the data can greatly influence the results whereas it would not significantly affect the mean. The results of these analyses are presented in the form of isoradiance plots for solar insolation angles of 90°, 70°, and 50° for filters 1 and 2 in Figures 16 through 21. The maximum radiance observed with filter 2 is considerably greater than theoretical values predicted by Bauer et al.[7] In comparing the results in this report with that of other workers, it should be emphasized that the radiances presented here are those seen through the filter. The unfiltered radiance would be approximately twice as large since on the average the filter transmission is approximately 50%. The isoradiance plot given for filter 2 for an insolation angle of 90° is particularly interesting since it shows a "bright" horizon at all azimuths in addition to the peak readings slightly below the horizon toward the sun. This result is not predicted in any of the models.

The 50% transmission points for filter 11 occur at 4.2 μ and 4.4 μ. Thus the wavelength of major transmission lies in center of the 4.3 μ CO_2 absorption band. This is a very intense absorption band and very little solar radiation at these wavelengths will penetrate the atmosphere even to 50,000 feet. The solar contribution to the radiance observed with this filter will have to come from the scattering of solar radiation at high altitudes. The spectral region passed by this filter is far enough out in wavelength that the radiation emitted by the atmosphere is greater in most cases than the radiation arising from scattered sunlight. Because of the temperature structure of the atmosphere and the variation of the optical depth with elevation angle it can be shown the radiance observed at these wavelengths should be a minimum toward the horizon and increase toward the nadir. This trend is evident in the isoradiance plots shown in Figures 22 and 23. These plots show considerable structure in addition to the general trend mentioned above. The theoretical scattering calculations referenced above indicate that forward scattering should be about as pronounced at these wavelengths as at 2.7 μ. However these figures show little indication of forward scattering. Unfortunately no data were obtained with this filter for large insolation angles where the effect would be most noticeable. Because of increased absorption in this region the cloud would have to be higher to contribute a significant amount of reflected radiation than in the case of the other two filters. In view of this it is rather surprising that the isoradiance plots show as much structure as they do. It would appear that either clouds

are present at altitudes considerably in excess of where they normally are assumed to be or else the "dust" layer at 20 kms is dense enough to give rise to considerable scattering. The second explanation would appear to be the probable cause if it weren't for the difference in radiance observed between "clear" and "cloudy" conditions. Figure 24 gives an isoradiance plot for clear conditions with an insolation angle of 50°. Comparing this with Figure 23 shows that the structure observed is associated with cloudy conditions. This wavelength region has not received the theoretical attention that the 2.7 μ region has hence it is not possible to compare the observations with theoretical calculations.

There have been other observations made in the 2.7 μ region from U-2 aircraft and satellites; however the results are available only in the classified literature.

ACKNOWLEDGMENT

James Brooks, Jay Green, Charles Garwood and Stephen Smith contributed materially to the design and construction of the equipment used in this program and assisted in the flight phase. The programming of the IBM 7090 Computer used in the data analysis was performed by Marie Working. The author has profited from many discussions with Harry Wessely of Aerospace Corporation who suggested tabulating the mean radiance and r.m.s. fluctuations of the radiance against azimuth, elevation and scattering angle.

The launch and recovery of the instrumentation for all flights made at Holloman was very capably handled by personnel of the Balloon R & D Test Branch, Holloman, A.F.B.

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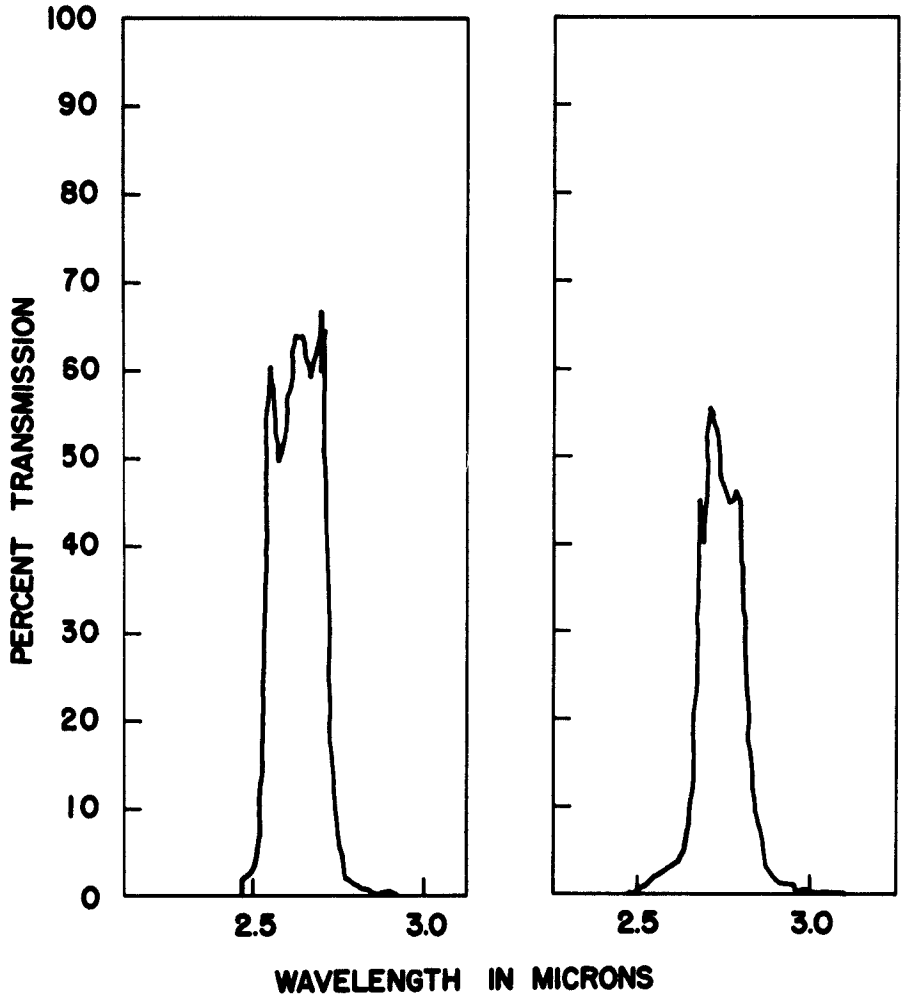
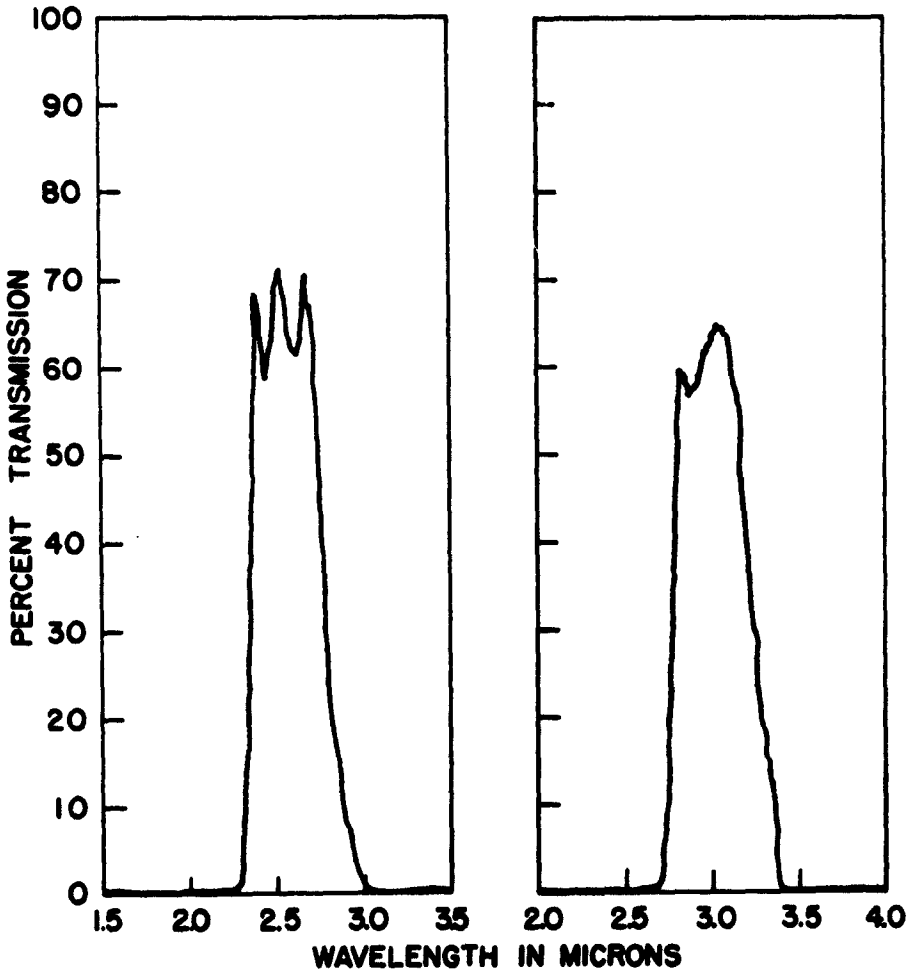


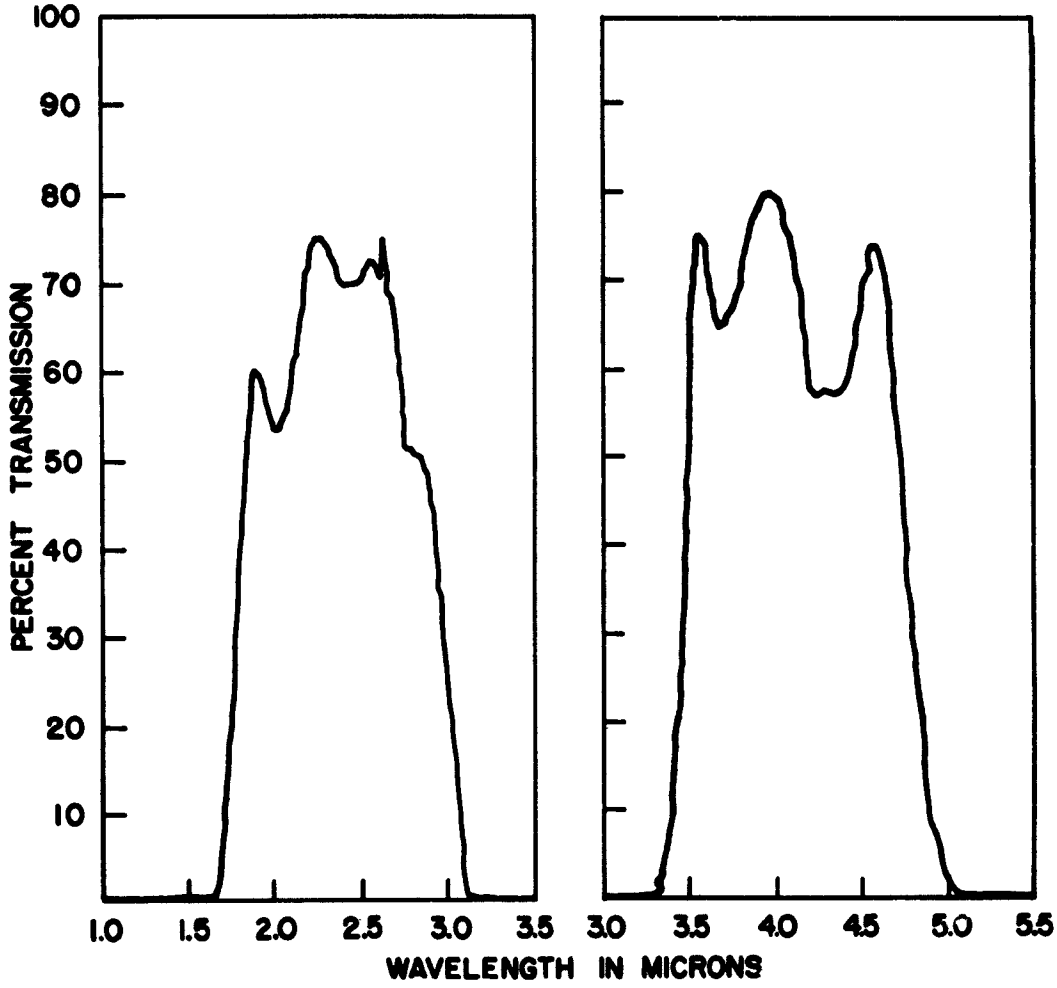
IR Filter Nos. 1, 6 IR Filter Nos. 2, 7

Figure 1



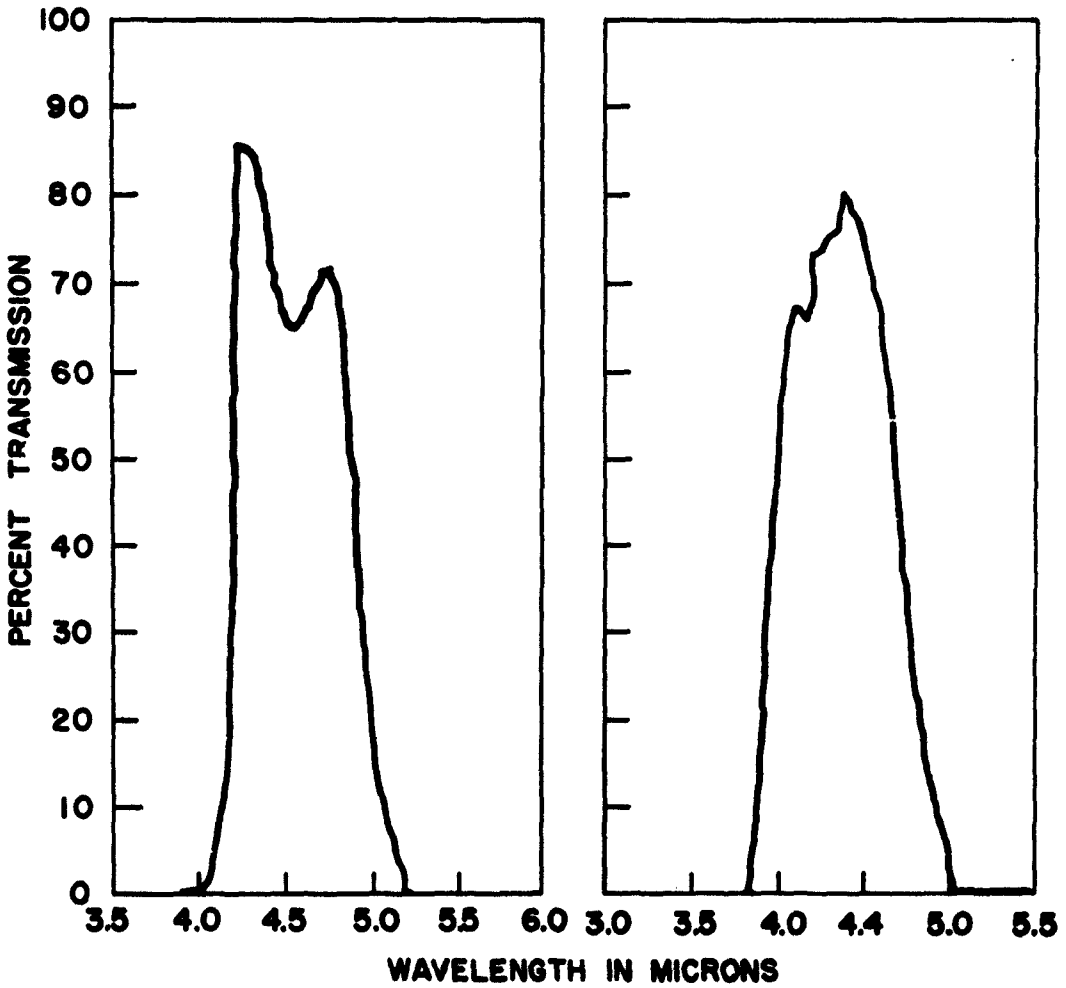
IR Filter No. 3 IR Filter No. 4

Figure 2



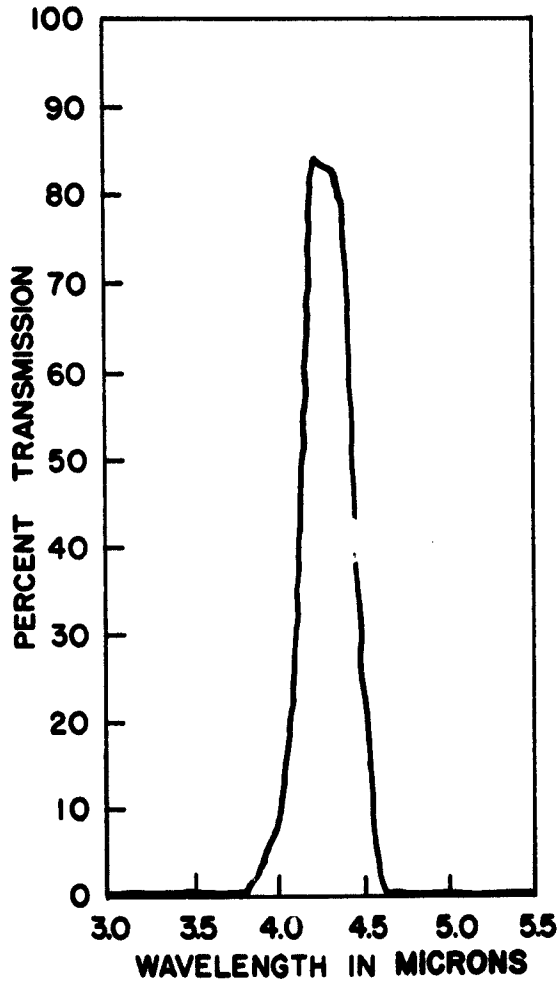
IR Filter No. 5 IR Filter No. 8

Figure 3



IR Filter No. 9 IR Filter No. 10

Figure 4



IR Filter No. 11

Figure 5

FLIGHT SUMMARY

DATE	LAUNCH TIME & LOCATION		SCAN	WEATHER
Jan.29,'62	0733 M.S.T.	Holloman	Azimuth	Clear 1/10 high cirrus
Mar.21,'62	0830 M.S.T.	"	"	Clear 1/10 high cirrus
Apr.19,'62	0544 M.S.T.	"	"	5/10 to 8/10 high cirrus
May 23,'62	0600 M.S.T.	"	"	Clear 1/10 high cirru
Jul. 5,'62	0830 A.S.T.	Fairbanks	"	High cirrus, some cumulus
Jul.14,'62	2229 A.S.T.	"	"	High cirrus, patches of stratus
Jul.16,'62	0130 A.S.T.	"	"	High cirrus, cumulus buildup
Aug.28,'62	0847 M.S.T.	Holloman	"	5/10 cumulus, cirro cumulus, cirrus, cumulus buildups
Oct.23,'62	0717 M.S.T.	"	"	Clear
Oct.29,'62	0802 M.S.T.	"	"	4/10 stratus, cirrus
Mar.14,'63	0731 M.S.T.	"	Elevation	5/10 cumulus, cirrus
Mar.20,'63	0715 M.S.T.	"	"	Clear

TABLE 1

NUMBER OF OBSERVATIONS AS A FUNCTION OF SUN AZIMUTH

FILTER 1 INSOL ANGLE 30.0 DEG.

VA / SA	0	10	20	30	40	50	60	70	80
0	0.	0.	0.	314.	0.	585.	0.	285.	465.
10	0.	0.	0.	475.	0.	1560.	0.	1364.	1064.
20	0.	0.	0.	734.	0.	645.	0.	1635.	2144.
30	0.	0.	0.	1394.	0.	1140.	0.	1620.	1320.
40	0.	0.	0.	554.	0.	3135.	0.	975.	855.
50	0.	0.	0.	315.	0.	1590.	0.	495.	1110.
60	0.	0.	0.	345.	0.	2248.	0.	345.	1125.
70	0.	0.	0.	342.	0.	930.	150.	495.	855.
80	0.	0.	0.	539.	0.	720.	135.	315.	525.
90	0.	0.	0.	555.	0.	450.	165.	418.	240.
100	0.	0.	0.	495.	0.	375.	420.	330.	210.
110	0.	0.	0.	810.	0.	225.	390.	645.	1065.
120	0.	0.	0.	929.	0.	315.	555.	720.	1275.
130	0.	0.	0.	890.	0.	135.	915.	555.	795.
140	0.	0.	0.	660.	0.	0.	1710.	1515.	570.
150	0.	0.	0.	841.	0.	0.	2025.	824.	465.
160	0.	0.	0.	1290.	0.	0.	1395.	420.	375.
170	0.	0.	0.	1772.	0.	0.	630.	0.	480.
180	0.	0.	0.	120.	0.	0.	135.	0.	225.

VA AND SA ARE IN DEGREES. CLOUDS

TABLE 2

IR MEAN RADIANCE AS A FUNCTION OF SUN AZIMUTH

FILTER 1 INSOL ANGLE 30.0 DEG.

VA / SA	0	10	20	30	40	50	60	70	80
0	0.	0.	0.	0.65	0.	2.08	0.	0.89	0.77
10	0.	0.	0.	1.84	0.	1.19	0.	1.11	0.96
20	0.	0.	0.	1.40	0.	0.64	0.	0.98	0.97
30	0.	0.	0.	1.09	0.	1.18	0.	0.93	0.78
40	0.	0.	0.	1.16	0.	0.88	0.	0.86	0.64
50	0.	0.	0.	0.71	0.	1.06	0.	0.90	0.66
60	0.	0.	0.	0.90	0.	1.46	0.	0.66	0.80
70	0.	0.	0.	1.48	0.	1.25	0.34	0.56	0.74
80	0.	0.	0.	1.07	0.	0.57	0.41	0.39	0.48
90	0.	0.	0.	0.87	0.	0.42	0.44	0.29	0.27
100	0.	0.	0.	0.81	0.	0.42	0.55	0.26	0.24
110	0.	0.	0.	1.54	0.	0.36	0.80	0.25	0.34
120	0.	0.	0.	0.96	0.	0.41	0.46	0.31	0.36
130	0.	0.	0.	0.89	0.	0.59	0.62	0.34	0.35
140	0.	0.	0.	0.76	0.	0.	0.50	1.19	0.48
150	0.	0.	0.	2.17	0.	0.	0.54	1.13	0.35
160	0.	0.	0.	0.73	0.	0.	0.78	0.87	0.34
170	0.	0.	0.	0.90	0.	0.	0.57	0.	0.39
180	0.	0.	0.	0.60	0.	0.	0.44	0.	0.37

RADIANCE VALUES ARE IN MICROWATTS. CLOUDS. VA AND SA ARE IN DEGREES.

TABLE 3

IR RMS FLUCTUATION AS A FUNCTION OF SUN AZIMUTH

FILTER 1 INSOL ANGLE 30.0 DEG.

VA SA	0	10	20	30	40	50	60	70	80
0	0.	0.	0.	0.32	0.	1.28	0.	0.51	0.29
10	0.	0.	0.	0.96	0.	0.91	0.	0.51	0.40
20	0.	0.	0.	0.98	0.	0.50	0.	0.36	0.42
30	0.	0.	0.	1.00	0.	0.99	0.	0.32	0.36
40	0.	0.	0.	0.76	0.	0.48	0.	0.28	0.60
50	0.	0.	0.	0.67	0.	0.69	0.	0.39	0.80
60	0.	0.	0.	1.04	0.	0.82	0.	0.32	0.71
70	0.	0.	0.	1.34	0.	0.87	0.23	0.32	0.51
80	0.	0.	0.	0.84	0.	0.52	0.22	0.30	0.37
90	0.	0.	0.	0.67	0.	0.24	0.23	0.21	0.20
100	0.	0.	0.	1.00	0.	0.34	0.31	0.20	0.18
110	0.	0.	0.	1.52	0.	0.22	0.48	0.20	0.22
120	0.	0.	0.	1.13	0.	0.22	0.34	0.31	0.31
130	0.	0.	0.	0.61	0.	0.47	0.43	0.29	0.28
140	0.	0.	0.	0.39	0.	0.	0.23	0.38	0.39
150	0.	0.	0.	1.70	0.	0.	0.25	0.62	0.23
160	0.	0.	0.	0.37	0.	0.	0.38	0.40	0.22
170	0.	0.	0.	0.48	0.	0.	0.28	0.27	0.24
180	0.	0.	0.	0.24	0.	0.	0.23	0.	0.23

RADIANCE VALUES ARE IN MICROWATTS. CLOUDS VA AND SA ARE IN DEGREES.

TABLE 4

NUMBER OF OBSERVATIONS AS A FUNCTION OF SCATTERING ANGLE

FILTER 1 INSOL ANGLE 30.0 DEG.

VA SCA	0	10	20	30	40	50	60	70	80
0	0.	0.	0.	0.	0.	0.	0.	0.	0.
10	0.	0.	0.	0.	0.	0.	0.	0.	0.
20	0.	0.	0.	0.	0.	0.	0.	0.	0.
30	0.	0.	0.	0.	0.	0.	0.	0.	0.
40	0.	0.	0.	0.	0.	0.	0.	0.	0.
50	0.	0.	0.	0.	0.	0.	0.	0.	0.
60	0.	0.	0.	0.	0.	0.	0.	0.	0.
70	0.	0.	0.	0.	0.	0.	0.	0.	899.
80	0.	0.	0.	0.	0.	0.	0.	5624.	4919.
90	0.	0.	0.	0.	0.	0.	0.	1335.	3030.
100	0.	0.	0.	0.	0.	885.	254.	898.	900.
110	0.	0.	0.	0.	134.	9628.	315.	1155.	1860.
120	0.	0.	0.	1223.	108.	2100.	795.	2685.	2130.
130	0.	0.	0.	3043.	0.	795.	1590.	1259.	1425.
140	0.	103.	146.	1586.	0.	615.	5805.	0.	0.
150	195.	195.	132.	1799.	0.	0.	0.	0.	0.
160	0.	120.	0.	1907.	104.	0.	0.	0.	0.
170	0.	0.	0.	3576.	0.	0.	0.	0.	0.
180	0.	0.	0.	240.	0.	0.	0.	0.	0.

VA AND SCA ARE IN DEGREES. CLOUDS

TABLE 5

IR MEAN RADIANCE AS A FUNCTION OF SCATTERING ANGLE

FILTER 1 INSOL ANGLE 30.0 DEG.

VA / SCA	0	10	20	30	40	50	60	70	80
0	0.	0.	0.	0.	0.	0.	0.	0.	0.
10	0.	0.	0.	0.	0.	0.	0.	0.	0.
20	0.	0.	0.	0.	0.	0.	0.	0.	0.
30	0.	0.	0.	0.	0.	0.	0.	0.	0.
40	0.	0.	0.	0.	0.	0.	0.	0.	0.
50	0.	0.	0.	0.	0.	0.	0.	0.	0.
60	0.	0.	0.	0.	0.	0.	0.	0.	0.
70	0.	0.	0.	0.	0.	0.	0.	0.	0.82
80	0.	0.	0.	0.	0.	0.	0.	0.98	0.93
90	0.	0.	0.	0.	0.	0.	0.	0.76	0.64
100	0.	0.	0.	0.	0.	1.33	0.54	0.36	0.41
110	0.	0.	0.	0.	1.12	1.20	0.41	0.26	0.34
120	0.	0.	0.	1.90	2.39	0.70	0.66	0.89	0.38
130	0.	0.	0.	0.81	0.	0.40	0.53	0.87	0.37
140	0.	1.01	1.12	1.06	0.	0.42	0.59	0.	0.
150	1.10	0.63	1.40	1.31	0.	0.	0.	0.	0.
160	0.	1.21	0.	0.98	1.42	0.	0.	0.	0.
170	0.	0.	0.	1.05	0.	0.	0.	0.	0.
180	0.	0.	0.	0.69	0.	0.	0.	0.	0.

RADIANCE VALUES ARE IN MICROWATTS. CLOUDS VA AND SCA ARE IN DEGREES.

TABLE 6

RMS FLUCTUATION AS A FUNCTION OF SCATTERING ANGLE

FILTER 1 INSOL ANGLE 30.0 DEG

VA SCA	0	10	20	30	40	50	60	70	80
0	0.	0.	0.	0.	0.	0.	0.	0.	0.
10	0.	0.	0.	0.	0.	0.	0.	0.	0.
20	0.	0.	0.	0.	0.	0.	0.	0.	0.
30	0.	0.	0.	0.	0.	0.	0.	0.	0.
40	0.	0.	0.	0.	0.	0.	0.	0.	0.
50	0.	0.	0.	0.	0.	0.	0.	0.	0.
60	0.	0.	0.	0.	0.	0.	0.	0.	0.
70	0.	0.	0.	0.	0.	0.	0.	0.	0.30
80	0.	0.	0.	0.	0.	0.	0.	0.39	0.53
90	0.	0.	0.	0.	0.	0.	0.	0.37	0.60
100	0.	0.	0.	0.	0.	0.48	0.61	0.27	0.33
110	0.	0.	0.	0.	0.97	0.86	0.24	0.19	0.27
120	0.	0.	0.	1.05	1.85	0.69	0.43	0.65	0.31
130	0.	0.	0.	0.65	0.	0.28	0.37	0.60	0.23
140	0.	1.23	0.97	1.02	0.	0.29	0.31	0.	0.
150	0.83	0.39	1.35	1.38	0.	0.	0.	0.	0.
160	0.	1.00	0.	0.93	1.25	0.	0.	0.	0.
170	0.	0.	0.	0.94	0.	0.	0.	0.	0.
180	0.	0.	0.	0.24	0.	0.	0.	0.	0.

RADIANCE VALUES ARE IN MICROWATTS. CLOUDS VA AND SCA ARE IN DEGREES.

TABLE 7

NUMBER OF OBSERVATIONS AS A FUNCTION OF SUN AZIMUTH

FILTER 1 INSOL ANGLE 40.0 DEG.

VA / SA	0	10	20	30	40	50	60	70	80
0	0.	330.	285.	300.	195.	375.	300.	195.	405.
10	165.	315.	390.	465.	465.	554.	345.	510.	1092.
20	150.	435.	345.	600.	435.	495.	435.	314.	808.
30	285.	390.	450.	645.	390.	540.	330.	450.	882.
40	120.	375.	435.	630.	435.	1560.	495.	630.	1139.
50	285.	390.	465.	705.	465.	1335.	1275.	450.	1030.
60	255.	525.	465.	780.	420.	839.	1260.	315.	794.
70	0.	285.	225.	780.	270.	870.	630.	420.	855.
80	135.	255.	269.	840.	195.	720.	345.	180.	795.
90	0.	195.	225.	825.	225.	555.	345.	240.	615.
100	150.	210.	315.	855.	195.	495.	390.	255.	747.
110	150.	240.	285.	810.	330.	705.	450.	450.	1933.
120	195.	570.	495.	1035.	435.	570.	420.	390.	1198.
130	210.	525.	435.	1395.	360.	645.	420.	315.	1108.
140	180.	285.	300.	405.	255.	360.	360.	255.	1101.
150	225.	465.	480.	480.	420.	465.	405.	345.	930.
160	150.	345.	345.	434.	450.	510.	480.	540.	1167.
170	165.	405.	465.	570.	435.	555.	555.	345.	945.
180	165.	255.	285.	300.	240.	270.	285.	300.	705.

VA AND SA ARE IN DEGREES. CLOUDS

TABLE 8

IR MEAN RADIANCE AS A FUNCTION OF SUN AZIMUTH

FILTER 1 INSOL ANGLE 40.0 DEG.

VA / SA	0	10	20	30	40	50	60	70	80
0	0.	0.72	0.57	0.78	0.66	0.58	0.94	0.68	0.65
10	0.80	0.85	0.64	0.79	1.22	1.21	1.71	1.60	1.10
20	0.77	1.07	1,05	0.88	1.59	1.57	2.58	2.22	0.83
30	0.7ɔ	0.96	0.63	0.73	0.90	1.00	1.07	1.19	0.72
40	1.04	1.28	1.08	0.96	1.40	0.66	1.83	2.14	1.47
50	1.63	2.44	1.26	0.99	1.24	0.78	0.77	2.46	1.41
60	1.04	1.80	1.18	0.87	1.37	0.73	0.55	1.35	0.61
70	0.	0.80	0.72	0.42	0.88	0.59	0.60	1.13	0.57
80	1.11	1.12	0.81	0.62	0.68	0.50	0.83	0.92	0.32
90	0.	0.93	0.78	0.34	0.55	0.44	0.52	0.42	0.20
100	0.97	0.91	0.62	0.48	0.77	0.58	0.57	0.71	0.39
110	0.65	0.93	0.93	0.52	0.75	0.56	0.66	0.48	0.20
120	0.87	1.19	1.21	0.57	0.81	0.59	0.79	0.62	0.33
130	1.27	1.62	1.15	0.52	0.71	0.91	0.90	0.75	0.20
140	1.18	1.00	0.69	0.77	0.75	0.49	0.67	0.46	0.19
150	0.85	0.92	0.72	0.52	0.66	0.54	0.59	0.42	0.23
160	1.32	0.96	0.59	0.46	0.52	0.35	0.34	0.30	0.24
170	0.76	1.09	0.58	0.78	0.63	0.56	0.59	0.52	0.27
180	0.82	0.62	0.62	0.52	0.61	0.47	0.41	0.47	0.25

RADIANCE VALUES ARE IN MICROWATTS. CLOUDS VA AND SA ARE IN DEGREES.

TABLE 9

IR RMS FLUCTUATION AS A FUNCTION OF SUN AZIMUTH

FILTER 1 INSOL ANGLE 40.0 DEG.

VA / SA	0	10	20	30	40	50	60	70	80
0	0.	0.72	0.52	0.66	0.49	0.49	0.97	0.38	0.27
10	0.87	0.85	0.58	0.64	1.04	1.30	1.47	1.44	1.15
20	0.78	0.81	0.67	0.61	1.31	2.16	2.46	2.20	0.85
30	0.62	0.81	0.50	0.61	0.78	0.91	1.00	1.57	1.01
40	0.64	1.15	0.86	0.62	0.88	0.64	1.01	1.54	2.21
50	0.89	1.71	0.90	0.68	0.91	0.78	0.98	1.78	2.13
60	0.75	1.30	0.88	0.80	0.81	0.80	0.77	1.08	0.90
70	0.	1.07	0.84	0.51	0.84	0.63	0.71	0.93	0.76
80	1.07	1.23	0.82	0.73	0.69	0.37	0.68	0.75	0.45
90	0.	1.21	0.86	0.23	0.67	0.37	0.38	0.46	0.18
100	1.07	1.10	0.56	0.46	0.86	0.50	0.43	0.56	0.49
110	0.77	1.03	0.84	0.60	0.70	0.62	0.67	0.48	0.23
120	0.60	0.89	0.84	0.57	0.61	0.44	0.49	0.48	0.38
130	0.63	1.23	0.78	0.51	0.38	0.59	0.52	0.47	0.22
140	0.96	0.99	0.48	0.49	0.44	0.40	0.46	0.42	0.15
150	0.89	1.02	0.69	0.38	0.50	0.37	0.42	0.34	0.23
160	0.95	1.00	0.60	0.55	0.61	0.30	0.32	0.30	0.27
170	0.91	1.22	0.61	0.85	0.56	0.45	0.57	0.50	0.31
180	1.03	0.73	0.78	0.64	0.55	0.41	0.49	0.57	0.24

RADIANCE VALUES ARE IN MICROWATTS. CLOUDS VA AND SA ARE IN DEGREES.

TABLE 10

NUMBER OF OBSERVATIONS AS A FUNCTION OF SCATTERING ANGLE

FILTER 1 INSOL ANGLE 40.0 DEG.

VA SCA	0	10	20	30	40	50	60	70	80
0	0.	0.	0.	0.	0.	0.	0.	0.	0.
10	0.	0.	0.	0.	0.	0.	0.	0.	0.
20	0.	0.	0.	0.	0.	0.	0.	0.	0.
30	0.	0.	0.	0.	0.	0.	0.	0.	0.
40	0.	0.	0.	0.	0.	0.	0.	0.	0.
50	0.	0.	0.	0.	0.	0.	0.	0.	0.
60	0.	0.	0.	0.	0.	0.	0.	0.	817.
70	0.	0.	0.	0.	0.	0.	0.	855.	3294.
80	0.	0.	0.	0.	0.	0.	795.	1589.	1889.
90	0.	0.	0.	0.	0.	1619.	1980.	660.	1455.
100	0.	0.	0.	0.	1065.	2549.	2325.	450.	1228.
110	0.	0.	0.	1245.	1590.	2580.	615.	495.	2455.
120	0.	0.	1230.	3015.	660.	1155.	690.	600.	2074.
130	0.	1575.	1919.	2175.	390.	1125.	780.	630.	2637.
140	2460.	2340.	900.	1890.	630.	1065.	645.	990.	2400.
150	750.	2655.	1170.	2340.	615.	705.	1155.	630.	0.
160	0.	225.	1530.	929.	615.	1080.	540.	0.	0.
170	0.	0.	210.	1110.	825.	540.	0.	0.	0.
180	0.	0.	0.	150.	225.	0.	0.	0.	0.

VA AND SCA ARE IN DEGREES. CLOUDS

TABLE 11

IR MEAN RADIANCE AS A FUNCTION OF SCATTERING ANGLE

FILTER 1 INSOL ANGLE 40.0 DEG.

VA SCA	0	10	20	30	40	50	60	70	80
0	0.	0.	0.	0.	0.	0.	0.	0.	0.
10	0.	0.	0.	0.	0.	0.	0.	0.	0.
20	0.	0.	0.	0.	0.	0.	0.	0.	0.
30	0.	0.	0.	0.	0.	0.	0.	0.	0.
40	0.	0.	0.	0.	0.	0.	0.	0.	0.
50	0.	0.	0.	0.	0.	0.	0.	0.	0.
60	0.	0.	0.	0.	0.	0.	0.	0.	1.04
70	0.	0.	0.	0.	0.	0.	0.	1.14	1.10
80	0.	0.	0.	0.	0.	0.	1.68	2.12	1.02
90	0.	0.	0.	0.	0.	0.98	1.43	1.52	0.44
100	0.	0.	0.	0.	1.15	0.96	0.50	0.88	0.26
110	0.	0.	0.	0.92	1.29	0.57	0,74	0.54	0.26
120	0.	0.	0.70	0.82	0.94	0.41	0.54	0.57	0.25
130	0.	1.18	1.04	0.49	0.56	0.62	0.85	0.64	0.20
140	0.92	1.22	0.74	0.47	0.83	0.77	0.67	0.38	0.26
150	1.23	1.13	1.11	0.53	0.73	0.55	0.51	0.49	0.
160	0.	1.40	0.65	0.64	0.64	0.50	0.48	0.	0.
170	0.	0.	0.76	0.65	0.61	0.46	0.	0.	0.
180	0.	0.	0.	0.49	0.62	0.	0.	0.	0.

RADIANCE VALUES ARE IN MICROWATTS. CLOUDS VA AND SCA ARE IN DEGREES.

TABLE 12

RMS FLUCTUATION AS A FUNCTION OF SCATTERING ANGLE

FILTER 1 INSOL ANGLE 40.0 DEG.

VA SCA	0	10	20	30	40	50	60	70	80
0	0.	0.	0.	0.	0.	0.	0.	0.	0.
10	0.	0.	0.	0.	0.	0.	0.	0.	0.
20	0.	0.	0.	0.	0.	0.	0.	0.	0.
30	0.	0.	0.	0.	0.	0.	0.	0.	0.
40	0.	0.	0.	0.	0.	0.	0.	0.	0.
50	0.	0.	0.	0.	0.	0.	0.	0.	0.
60	0.	0.	0.	0.	0.	0.	0.	0.	1.26
70	0.	0.	0.	0.	0.	0.	0.	1.32	1.57
80	0.	0.	0.	0.	0.	0.	1.70	1.84	1.64
90	0.	0.	0.	0.	0.	1.34	1.45	1.04	0.59
100	0.	0.	0.	0.	1.13	0.99	0.67	0.82	0.33
110	0.	0.	0.	0.73	0.88	0.63	0.59	0.54	0.33
120	0.	0.	0.55	0.65	0.83	0.29	0.51	0.50	0.29
130	0.	1.17	0.86	0.58	0.67	0.57	0.56	0.48	0.19
140	0.86	1.27	0.80	0.49	0.74	0.58	0.47	0.34	0.28
150	0.93	1.08	0.82	0.53	0.42	0.42	0.49	0.53	0.
160	0.	1.19	0.62	0.47	0.50	0.38	0.48	0.	0.
170	0.	0.	0.89	0.76	0.60	0.43	0.	0.	0.
180	0.	0.	0.	0.51	0.58	0.	0.	0.	0.

RADIANCE VALUES ARE IN MICROWATTS. CLOUDS VA AND SCA ARE IN DEGREES.

TABLE 13

NUMBER OF OBSERVATIONS AS A FUNCTION OF SUN AZIMUTH

FILTER 1 INSOL ANGLE 50.0 DEG.

VA / SA	0	10	20	30	40	50	60	70	80
0	0.	0.	150.	150.	480.	120.	540.	131.	523.
10	105.	195.	210.	178.	885.	225.	1065.	289.	1185.
20	0.	255.	225.	210.	765.	165.	840.	120.	1260.
30	0.	240.	195.	165.	463.	150.	1095.	120.	1214.
40	0.	210.	195.	150.	405.	135.	960.	180.	1274.
50	0.	165.	180.	195.	375.	195.	870.	210.	1169.
60	135.	420.	360.	360.	810.	345.	1140.	450.	1110.
70	210.	405.	435.	360.	1245.	539.	1125.	615.	1200.
80	180.	345.	480.	465.	1200.	479.	840.	480.	1035.
90	135.	240.	495.	285.	945.	480.	795.	974.	1077.
100	105.	465.	750.	480.	1004.	510.	838.	1080.	585.
110	195.	360.	944.	300.	1094.	600.	975.	1575.	568.
120	0.	341.	1020.	315.	1185.	660.	810.	1545.	405.
130	0.	165.	975.	270.	795.	555.	555.	1875.	375.
140	0.	149.	900.	210.	975.	435.	465.	1874.	195.
150	0.	240.	1110.	195.	1035.	615.	600.	2366.	270.
160	120.	345.	1365.	300.	930.	735.	704.	1785.	270.
170	105.	240.	1710.	195.	705.	630.	885.	1514.	180.
180	0.	120.	630.	0.	360.	0.	358.	480.	0.

VA AND SA ARE IN DEGREES. CLOUDS

TABLE 14

IR MEAN RADIANCE AS A FUNCTION OF SUN AZIMUTH

FILTER 1 INSOL ANGLE 50.0 DEG.

VA / SA	0	10	20	30	40	50	60	70	80
0	0.	0.	0.69	1.28	0.65	3.05	1.75	8.02	0.69
10	1.71	1.59	0.90	1.03	0.53	2.60	1.85	7.77	0.65
20	0.	1.15	0.84	0.76	0.53	2.04	1.02	5.08	0.38
30	0.	1.34	0.84	1.50	0.84	2.82	0.94	4.50	0.41
40	0.	1.44	0.80	0.78	0.57	2.18	0.72	3.47	1.01
50	0.	1.18	0.96	0.73	0.61	1.10	0.51	2.51	0.67
60	0.68	0.93	0.86	0.79	0.54	1.19	0.76	1.28	0.72
70	1.10	1.58	0.71	0.73	0.38	0.90	0.73	1.57	0.66
80	0.65	0.74	0.58	0.69	0.32	0.62	0.52	1.03	0.54
90	0.67	0.72	0.53	0.77	0.35	0.56	0.63	0.62	0.53
100	0.72	0.72	0.49	0.73	0.34	0.66	0.49	0.40	0.39
110	0.89	0.73	0.49	0.71	0.41	0.55	0.55	0.47	0.38
120	0.	0.76	0.48	0.64	0.31	0.47	0.39	0.27	0.29
130	0.	1.24	0.49	0.45	0.31	0.45	0.47	0.24	0.38
140	0.	1.14	0.45	0.47	0.36	0.40	0.43	0.21	0.39
150	0.	1.05	0.44	0.54	0.39	0.43	0.48	0.24	0.33
160	2.15	2.55	0.48	0.51	0.45	0.38	0.40	0.24	0.49
170	1.88	1.79	0.47	0.61	0.53	0.39	0.41	0.24	0.45
180	0.	0.86	0.56	0.	0.55	0.	0.42	0.24	0.

RADIANCE VALUES ARE IN MICROWATTS. CLOUDS VA AND SA ARE IN DEGREES.

TABLE 15

IR RMS FLUCTUATION AS A FUNCTION OF SUN AZIMUTH

FILTER 1 INSOL ANGLE 50.0 DEG

VA / SA	0	10	20	30	40	50	60	70	80
0	0.	0.	0.24	0.74	0.88	1.18	2.50	2.02	1.60
10	0.61	0.77	0.42	0.84	0.79	1.20	2.65	2.80	1.35
20	0.	0.43	0.22	0.29	0.69	0.89	1.85	3.55	0.80
30	0.	0.94	0.23	0.70	0.95	1.80	1.68	2.34	0.93
40	0.	1.26	0.32	0.30	0.61	1.33	1.38	1.49	1.26
50	0.	1.13	0.29	0.31	0.42	0.65	0.94	1.49	1.00
60	0.21	0.89	0.43	0.27	0.45	0.38	1.16	1.22	1.21
70	0.94	1.36	0.35	0.29	0.36	0.64	0.83	1.33	1.09
80	0.21	0.24	0.30	0.22	0.31	0.43	0.53	1.05	0.91
90	0.20	0.28	0.32	0.29	0.34	0.42	0.57	0.69	0.76
100	0.23	0.30	0.26	0.30	0.37	0.39	0.43	0.47	0.55
110	0.50	0.27	0.26	0.27	0.38	0.34	0.46	0.59	0.51
120	0.	0.41	0.27	0.19	0.26	0.32	0.31	0.38	0.30
130	0.	0.83	0.25	0.27	0.23	0.26	0.24	0.23	0.28
140	0.	0.99	0.23	0.25	0.22	0.24	0.22	0.18	0.27
150	0.	0.57	0.24	0.20	0.22	0.25	0.26	0.20	0.18
160	1.21	1.23	0.24	0.18	0.22	0.24	0.25	0.20	0.30
170	1.11	1.02	0.26	0.20	0.23	0.25	0.25	0.21	0.25
180	0.	0.22	0.22	0.	0.21	0.	0.25	0.18	0.

RADIANCE VALUES ARE IN MICROWATTS. CLOUDS VA AND SA ARE IN DEGREES.

TABLE 16

NUMBER OF OBSERVATIONS AS A FUNCTION OF SCATTERING ANGLE

FILTER 1 INSOL ANGLE 50.0 DEG.

VA / SCA	0	10	20	30	40	50	60	70	80
0	0.	0.	0.	0.	0.	0.	0.	0.	0.
10	0.	0.	0.	0.	0.	0.	0.	0.	0.
20	0.	0.	0.	0.	0.	0.	0.	0.	0.
30	0.	0.	0.	0.	0.	0.	0.	0.	0.
40	0.	0.	0.	0.	0.	0.	0.	0.	0.
50	0.	0.	0.	0.	0.	0.	0.	0.	2940.
60	0.	0.	0.	0.	0.	0.	0.	375.	2530.
70	0.	0.	0.	0.	0.	0.	870.	345.	1665.
80	0.	0.	0.	0.	0.	345.	3330.	555.	1875.
90	0.	0.	0.	0.	375.	510.	2070.	885.	1529.
100	0.	0.	0.	390.	2818.	674.	1770.	1020.	988.
110	0.	0.	495.	613.	2190.	839.	1468.	1649.	898.
120	0.	495.	930.	930.	2220.	780.	1290.	2130.	525.
130	686.	1601.	1950.	825.	1678.	1110.	1050.	2580.	270.
140	1305.	2414.	2714.	705.	1875.	870.	750.	3029.	585.
150	0.	450.	4395.	660.	1410.	630.	795.	4135.	120.
160	0.	0.	1845.	630.	1635.	975.	1019.	960.	0.
170	0.	0.	0.	120.	1335.	915.	1048.	0.	0.
180	0.	0.	0.	0.	120.	0.	0.	0.	0.

VA AND SCA ARE IN DEGREES. CLOUDS

TABLE 17

IR MEAN RADIANCE AS A FUNCTION OF SCATTERING ANGLE

FILTER 1 INSOL ANGLE 50.0 DEG.

VA / SCA	0	10	20	30	40	50	60	70	80
0	0.	0.	0.	0.	0.	0.	0.	0.	0.
10	0.	0.	0.	0.	0.	0.	0.	0.	0.
20	0.	0.	0.	0.	0.	0.	0.	0.	0.
30	0.	0.	0.	0.	0.	0.	0.	0.	0.
40	0.	0.	0.	0.	0.	0.	0.	0.	0.
50	0.	0.	0.	0.	0.	0.	0.	0.	0.40
60	0.	0.	0.	0.	0.	0.	0.	8.07	0.86
70	0.	0.	0.	0.	0.	0.	2.74	4.79	0.59
80	0.	0.	0.	0.	0.	2.43	0.72	2.20	0.67
90	0.	0.	0.	0.	1.25	2.33	0.89	1.44	0.64
100	0.	0.	0.	0.85	0.50	0.98	0.66	0.87	0.55
110	0.	0.	0.78	1.06	0.45	0.81	0.56	0.42	0.33
120	0.	1.17	0.78	0.76	0.33	0.63	0.55	0.42	0.35
130	1.36	1.19	0.60	0.74	0.38	0.55	0.47	0.24	0.40
140	0.89	1.23	0.50	0.71	0.35	0.48	0.43	0.22	0.41
150	0.	0.81	0.48	0.49	0.34	0.42	0.47	0.24	0.53
160	0.	0.	0.48	0.56	0.42	0.40	0.46	0.22	0.
170	0.	0.	0.	0.60	0.50	0.41	0.35	0.	0.
180	0.	0.	0.	0.	0.64	0.	0.	0.	0.

RADIANCE VALUES ARE IN MICROWATTS CLOUDS VA AND SCA ARE IN DEGREES.

TABLE 18

RMS FLUCTUATION AS A FUNCTION OF SCATTERING ANGLE

FILTER 1 INSOL ANGLE 50.0 DEG.

VA / SCA	0	10	20	30	40	50	60	70	80
0	0.	0.	0.	0.	0.	0.	0.	0.	0.
10	0.	0.	0.	0.	0.	0.	0.	0.	0.
20	0.	0.	0.	0.	0.	0.	0.	0.	0.
30	0.	0.	0.	0.	0.	0.	0.	0.	0.
40	0.	0.	0.	0.	0.	0.	0.	0.	0.
50	0.	0.	0.	0.	0.	0.	0.	0.	0.79
60	0.	0.	0.	0.	0.	0.	0.	3.07	1.44
70	0.	0.	0.	0.	0.	0.	3.04	2.18	1.05
80	0.	0.	0.	0.	0.	1.26	1.37	1.58	1.11
90	0.	0.	0.	0.	0.45	1.48	1.54	1.28	0.98
100	0.	0.	0.	0.59	0.76	0.65	0.81	0.88	0.74
110	0.	0.	0.26	0.69	0.44	0.60	0.55	0.49	0.44
120	0.	0.44	0.34	0.28	0.32	0.42	0.45	0.56	0.31
130	0.85	1.02	0.38	0.27	0.37	0.35	0.38	0.26	0.24
140	0.65	1.05	0.27	0.26	0.32	0.28	0,22	0.18	0.27
150	0.	0.25	0.25	0.25	0.22	0.25	0.28	0.21	0.20
160	0.	0.	0.24	0.18	0.22	0.25	0.25	0.19	0.
170	0.	0.	0.	0.18	0.23	0.25	0.20	0.	0.
180	0.	0.	0.	0.	0.17	0.	0.	0.	0.

RADIANCE VALUES ARE IN MICROWATTS. CLOUDS VA AND SCA ARE IN DEGREES.

TABLE 19

NUMBER OF OBSERVATIONS AS A FUNCTION OF SUN AZIMUTH

FILTER 1 INSOL ANGLE 60.0 DEG.

VA / SA	0	10	20	30	40	50	60	70	80
0	105.	165.	345.	195.	0.	150.	0.	0.	225.
10	0.	178.	630.	210.	210.	405.	420.	163.	469.
20	0.	0.	510.	105.	105.	285.	285.	299.	495.
30	0.	135.	569.	120.	135.	315.	345.	255.	402.
40	0.	135.	555.	105.	120.	300.	285.	210.	270.
50	0.	195.	600.	225.	240.	495.	974.	434.	585.
60	0.	0.	270.	0.	0.	314.	795.	840.	615.
70	0.	210.	285.	180.	150.	285.	375.	750.	417.
80	0.	255.	180.	225.	225.	300.	405.	975.	675.
90	135.	165.	255.	240.	210.	240.	315.	2250.	495.
100	120.	225.	225.	195.	195.	270.	420.	2173.	585.
110	0.	210.	225.	210.	210.	300.	750.	870.	570.
120	0.	0.	0.	315.	0.	180.	1004.	360.	510.
130	0.	180.	150.	690.	180.	330.	913.	555.	959.
140	0.	195.	210.	585.	105.	165.	703.	420.	615.
150	0.	0.	165.	705.	165.	330.	825.	255.	735.
160	0.	120.	885.	795.	0.	255.	613.	105.	719.
170	134.	180.	1050.	1020.	210.	435.	840.	240.	495.
180	0.	195.	360.	375.	150.	150.	329.	195.	299.

VA AND SA ARE IN DEGREES. CLOUDS

TABLE 20

IR MEAN RADIANCE AS A FUNCTION OF SUN AZIMUTH

FILTER 1 INSOL ANGLE 60.0 DEG.

VA / SA	0	10	20	30	40	50	60	70	80
0	0.78	0.85	0.54	1.43	0.	1.40	0.	0.	5.37
10	0.	0.53	0.36	0.77	1.05	1.06	1.54	3.88	3.65
20	0.	0.	0.40	0.71	0.76	0.75	0.53	6.59	1.61
30	0.	0.46	0.35	0.54	0.59	0.60	0.82	3.50	2.64
40	0.	0.61	0.34	0.64	0.50	0.56	1.33	2.04	2.43
50	0.	0.43	0.34	0.45	0.50	0.47	0.70	0.96	0.79
60	0.	0.	0.29	0.	0.	0.38	0.68	0.37	0.72
70	0.	0.29	0.39	0.34	0.32	0.36	0.81	0.31	0.59
80	0.	0.34	0.34	0.32	0.34	0.31	0.51	0.20	0.36
90	0.37	0.43	0.26	0.20	0.23	0.32	0.52	0.47	0.31
100	0.45	0.43	0.25	0.23	0.27	0.30	1.36	0.66	0.42
110	0.	0.48	0.21	0.22	0.30	0.35	0.52	0.71	0.73
120	0.	0.	0.	0.24	0.	0.53	0.45	0.39	0.75
130	0.	0.36	0.22	0.26	0.31	0.32	0.36	0.37	0.29
140	0.	0.35	0.26	0.29	0.26	0.33	0.39	0.40	0.27
150	0.	0.	0.45	0.27	0.46	0.42	0.46	0.46	0.37
160	0.	0.65	0.51	0.35	0.	0.28	0.51	0.27	0.26
170	0.43	0.69	0.45	0.35	0.34	0.46	0.62	0.65	0.49
180	0.	0.81	0.46	0.34	0.38	0.32	0.55	0.44	0.44

RADIANCE VALUES ARE IN MICROWATTS. CLOUDS VA AND SA ARE IN DEGREES.

TABLE 21

IR RMS FLUCTUATION AS A FUNCTION OF SUN AZIMUTH

FILTER 1 INSOL ANGLE 60.0 DEG.

VA / SA	0	10	20	30	40	50	60	70	80
0	0.62	0.54	0.61	1.29	0.	0.68	0.	0.	6.06
10	0.	0.74	0.29	0.78	1.14	0.69	1.48	3.51	3.72
20	0.	0.	0.25	0.54	0.66	0.61	0.26	5.40	1.46
30	0.	0.36	0.24	0.40	0.54	0.32	0.80	2.42	2.40
40	0.	0.26	0.23	0.25	0.33	0.27	1.18	1.73	2.96
50	0.	0.29	0.23	0.34	0.37	0.33	1.37	0.88	1.01
60	0.	0.	0.19	0.	0.	0.20	1.22	0.59	0.81
70	0.	0.21	0.27	0.25	0.24	0.19	0.77	0.33	0.69
80	0.	0.22	0.22	0.24	0.28	0.28	0.44	0.19	0.41
90	0.25	0.42	0.23	0.16	0.22	0.25	0.65	0.43	0.28
100	0.33	0.29	0.23	0.20	0.19	0.21	1.04	0.84	0.41
110	0.	0.37	0.15	0.16	0.19	0.21	0.40	0.67	0.81
120	0.	0.	0.	0.19	0.	0.35	0.49	0.20	0.80
130	0.	0.35	0.15	0.19	0.19	0.28	0.29	0.21	0.26
140	0.	0.26	0.15	0.20	0.18	0.21	0.27	0.20	0.23
150	0.	0.	0.26	0.20	0.17	0.22	0.25	0.27	0.32
160	0.	0.51	0.24	0.26	0.	0.19	0.29	0.29	0.21
170	0.21	0.71	0.26	0.24	0.23	0.27	0.32	0.34	0.56
180	0.	0.67	0.24	0.22	0.27	0.23	0.33	0.34	0.41

RADIANCE VALUES ARE IN MICROWATTS. CLOUDS VA AND SA ARE IN DEGREES.

TABLE 22

NUMBER OF OBSERVATIONS AS A FUNCTION OF SCATTERING ANGLE

FILTER 1 INSOL ANGLE 60.0 DEG.

VA SCA	0	10	20	30	40	50	60	70	80
0	0.	0.	0.	0.	0.	0.	0.	0.	0.
10	0.	0.	0.	0.	0.	0.	0.	0.	0.
20	0.	0.	0.	0.	0.	0.	0.	0.	0.
30	0.	0.	0.	0.	0.	0.	0.	0.	0.
40	0.	0.	0.	0.	0.	0.	0.	0.	690.
50	0.	0.	0.	0.	0.	0.	0.	0.	886.
60	0.	0.	0.	0.	0.	0.	0.	643.	570.
70	0.	0.	0.	0.	0.	840.	1050.	674.	855.
80	0.	0.	0.	0.	0.	840.	1229.	1185.	612.
90	0.	0.	0.	135.	540.	644.	1080.	1155.	763.
100	0.	0.	1230.	645.	345.	315.	585.	3074.	630.
110	0.	105.	2174.	480.	330.	495.	435.	2174.	795.
120	270.	1078.	630.	465.	375.	360.	735.	540.	765.
130	1229.	1275.	675.	1005.	300.	285.	1289.	585.	1079.
140	0.	600.	555.	1770.	210.	375.	1048.	540.	1125.
150	0.	0.	2295.	1740.	225.	375.	1048.	300.	1093.
160	0.	0.	0.	345.	180.	315.	840.	405.	270.
170	0.	0.	0.	0.	300.	510.	1078.	0.	0.
180	0.	0.	0.	0.	0.	150.	209.	0.	0.

VA AND SCA ARE IN DEGREES. CLOUDS

TABLE 23

IR MEAN RADIANCE AS A FUNCTION OF SCATTERING ANGLE

FILTER 1 INSOL ANGLE 60.0 DEG.

VA / SCA	0	10	20	30	40	50	60	70	80
0	0.	0.	0.	0.	0.	0.	0.	0.	0.
10	0.	0.	0.	0.	0.	0.	0.	0.	0.
20	0.	0.	0.	0.	0.	0.	0.	0.	0.
30	0.	0.	0.	0.	0.	0.	0.	0.	0.
40	0.	0.	0.	0.	0.	0.	0.	0.	4.55
50	0.	0.	0.	0.	0.	0.	0.	0.	2.04
60	0.	0.	0.	0.	0.	0.	0.	4.49	1.20
70	0.	0.	0.	0.	0.	0.85	1.01	1.14	0.82
80	0.	0.	0.	0.	0.	0.68	0.85	0.43	0.47
90	0.	0.	0.	2.07	0.75	0.48	0.69	0.26	0.34
100	0.	0.	0.39	0.60	0.42	0.33	0.55	0.52	0.37
110	0.	1.03	0.36	0.39	0.38	0.33	0.82	0.63	0.58
120	0.70	0.49	0.34	0.25	0.21	0.31	0.87	0.55	0.66
130	0.39	0.46	0.24	0.23	0.31	0.42	0.45	0.40	0.27
140	0.	0.48	0.30	0.27	0.35	0.35	0.36	0.37	0.34
150	0.	0.	0.48	0.38	0.34	0.36	0.42	0.44	0.38
160	0.	0.	0.	0.31	0.37	0.36	0.47	0.50	0.46
170	0.	0.	0.	0.	0.33	0.39	0.60	0.	0.
180	0.	0.	0.	0.	0.	0.45	0.65	0.	0.

RADIANCE VALUES ARE IN MICROWATTS. CLOUDS VA AND SCA ARE IN DEGREES.

TABLE 24

RMS FLUCTUATION AS A FUNCTION OF SCATTERING ANGLE

FILTER 1 INSOL ANGLE 60.0 DEG.

VA / SCA	0	10	20	30	40	50	60	70	80
0	0.	0.	0.	0.	0.	0.	0.	0.	0.
10	0.	0.	0.	0.	0.	0.	0.	0.	0.
20	0.	0.	0.	0.	0.	0.	0.	0.	0.
30	0.	0.	0.	0.	0.	0.	0.	0.	0.
40	0.	0.	0.	0.	0.	0.	0.	0.	4.3€
50	0.	0.	0.	0.	0.	0.	0.	0.	2.62
60	0.	0.	0.	0.	0.	0.	0.	4.21	1.47
70	0.	0.	0.	0.	0.	0.46	0.95	1.23	0.98
80	0.	0.	0.	0.	0.	0.69	1.36	0.65	0.54
90	0.	0.	0.	1.08	0.80	0.31	1.12	0.29	0.40
100	0.	0.	0.30	0.57	0.35	0.19	0.50	0.53	0.33
110	0.	0.54	0.32	0.29	0.28	0.27	0.92	0.83	0.69
120	0.46	0.42	0.25	0.20	0.17	0.22	0.80	0.42	0.77
130	0.28	0.45	0.21	0.17	0.20	0.33	0.47	0.22	0.24
140	0.	0.50	0.21	0.20	0.22	0.27	0.29	0.20	0.30
150	0.	0.	0.25	0.25	0.20	0.22	0.26	0.29	0.45
160	0.	0.	0.	0.22	0.22	0.21	0.28	0.35	0.25
170	0.	0.	0.	0.	0.25	0.25	0.31	0.	0.
180	0.	0.	0.	0.	0.	0.31	0.33	0.	0.

RADIANCE VALUES ARE IN MICROWATTS. CLOUDS VA AND SCA ARE IN DEGREES.

TABLE 25

NUMBER OF OBSERVATIONS AS A FUNCTION OF SUN AZIMUTH

FILTER 1 INSOL ANGLE 70.0 DEG.

VA SA	0	10	20	30	40	50	60	70	80
0	0.	150.	0.	330.	165.	0.	165.	315.	180.
10	0.	105.	195.	525.	390.	270.	240.	844.	574.
20	0.	195.	240.	583.	285.	165.	207.	928.	621.
30	0.	180.	358.	584.	315.	150.	150.	690.	462.
40	120.	374.	330.	464.	210.	210.	150.	664.	614.
50	0.	644.	165.	435.	285.	150.	210.	553.	374.
60	255.	281.	210.	315.	225.	0.	0.	510.	360.
70	0.	0.	855.	254.	195.	0.	0.	285.	135.
80	0.	251.	690.	360.	255.	120.	465.	390.	1050.
90	0.	255.	239.	360.	420.	435.	479.	525.	495.
100	0.	449.	150.	330.	884.	330.	540.	630.	720.
110	300.	135.	150.	300.	703.	405.	450.	1020.	464.
120	180.	180.	240.	390.	150.	360.	525.	225.	450.
130	135.	165.	255.	315.	120.	375.	374.	195.	690.
140	210.	283.	195.	360.	255.	285.	435.	420.	720.
150	120.	930.	195.	345.	195.	165.	300.	446.	735.
160	105.	240.	210.	210.	165.	135.	343.	390.	673.
170	0.	150.	105.	330.	120.	135.	345.	255.	1018.
180	0.	0.	0.	120.	0.	0.	105.	105.	554.

VA AND SA ARE IN DEGREES. CLOUDS

TABLE 26

IR MEAN RADIANCE AS A FUNCTION OF SUN AZIMUTH

FILTER 1 INSOL ANGLE 70.0 DEG.

VA / SA	0	10	20	30	40	50	60	70	80
0	0.	0.50	0.	0.47	0.70	0.	2.26	3.52	3.0
10	0.	0.43	0.29	0.42	0.64	0.69	1.04	4.55	3.8
20	0.	0.59	0.27	0.48	0.53	0.91	1.98	4.77	2.7
30	0.	0.54	0.26	0.39	0.39	0.74	1.06	4.86	2.5
40	0.73	0.60	0.32	0.38	0.41	0.60	0.73	3.29	1.5
50	0.	0.25	0.29	0.34	0.32	0.68	0.92	4.56	0.7
60	0.40	0.60	0.37	0.27	0.24	0.	0.	4.36	0.7
70	0.	0.	0.20	0.18	0.30	0.	0.	3.67	0.2
80	0.	0.56	0.33	0.23	0.22	0.24	1.52	2.36	0.7
90	0.	0.69	0.23	0.32	0.29	0.26	0.58	1.30	0.35
100	0.	0.22	0.38	0.23	0.18	0.15	0.26	1.12	0.31
110	0.13	0.10	0.34	0.28	0.24	0.20	0.26	0.90	0.26
120	0.29	0.46	0.32	0.26	0.32	0.18	0.22	0.25	0.28
130	0.53	0.65	0.38	0.23	0.42	0.23	0.25	0.19	0.26
140	0.65	0.51	0.39	0.29	0.29	0.40	0.22	0.23	0.34
150	0.53	0.20	0.38	0.19	0.36	0.45	0.18	0.24	0.34
160	0.55	0.54	0.48	0.28	0.53	0.46	0.25	0.31	0.44
170	0.	0.67	0.34	0.25	0.31	0.34	0.27	0.21	0.50
180	0.	0.	0.	0.27	0.	0.	0.32	0.18	0.42

RADIANCE VALUES ARE IN MICROWATTS. CLOUDS VA AND SA ARE IN DEGREES.

TABLE 27

IR RMS FLUCTUATION AS A FUNCTION OF SUN AZIMUTH

FILTER 1 INSOL ANGLE 70.0 DEG.

VA SA	0	10	20	30	40	50	60	70	80
0	0.	0.19	0.	0.31	0.45	0.	3.05	4.59	0.7
10	0.	0.21	0.16	0.45	0.34	0.54	1.09	5.43	3.6
20	0.	0.66	0.22	0.46	0.43	0.47	2.43	5.21	2.5
30	0.	0.71	0.32	0.40	0.37	0.42	0.96	3.94	2.0
40	0.72	0.85	0.25	0.42	0.41	0.41	0.27	3.22	1.5
50	0.	0.34	0.22	0.43	0.28	0.58	1.02	7.63	0.3
60	0.56	0.88	0.31	0.27	0.21	0.	0.	6.30	0.9
70	0.	0.	0.30	0.13	0.36	0.	0.	4.71	0.3
80	0.	0.29	0.31	0.15	0.24	0.17	0.96	2.54	0.5
90	0.	1.01	0.22	0.35	0.28	0.22	0.43	1.02	0.5
100	0.	0.36	0.23	0.20	0.30	0.15	0.36	0.70	0.2
110	0.16	0.08	0.20	0.36	0.40	0.21	0.26	0.57	0.2
120	0.50	0.26	0.24	0.29	0.21	0.17	0.20	0.37	0.2
130	0.26	0.99	0.24	0.21	0.21	0.25	0.27	0.16	0.1
140	0.68	0.63	0.25	0.24	0.21	0.25	0.26	0.33	0.2
150	0.24	0.28	0.21	0.19	0.39	0.28	0.13	0.30	0.3
160	0.59	0.49	0.44	0.29	0.21	0.27	0.31	0.41	0.3
170	0.	0.56	0.23	0.30	0.22	0.26	0.30	0.14	0.3
180	0.	0.	0.	0.40	0.	0.	0.45	0.17	0.32

RADIANCE VALUES ARE IN MICROWATTS. CLOUDS VA AND SA ARE IN DEGREES.

TABLE 28

NUMBER OF OBSERVATIONS AS A FUNCTION OF SCATTERING ANGLE

FILTER 1 INSOL ANGLE 70.0 DEG.

VA / SCA	0	10	20	30	40	50	60	70	80
0	0.	0.	0.	0.	0.	0.	0.	0.	0.
10	0.	0.	0.	0.	0.	0.	0.	0.	0.
20	0.	0.	0.	0.	0.	0.	0.	0.	0.
30	0.	0.	0.	0.	0.	0.	0.	0.	598.
40	0.	0.	0.	0.	0.	0.	0.	169.	987.
50	0.	0.	0.	0.	0.	0.	102.	2248.	775.
60	0.	0.	0.	0.	0.	0.	585.	1232.	570.
70	0.	0.	0.	0.	0.	675.	360.	750.	330.
80	0.	0.	0.	777.	1155.	330.	135.	405.	645.
90	0.	0.	300.	2024.	615.	90.	195.	435.	690.
100	0.	404.	1468.	794.	405.	360.	704.	735.	750.
110	825.	2090.	1469.	630.	810.	510.	615.	930.	614.
120	1260.	1200.	510.	645.	1182.	420.	615.	585.	480.
130	0.	1363.	750.	705.	285.	510.	525.	225.	810.
140	0.	0.	390.	1140.	285.	345.	494.	330.	795.
150	0.	0.	0.	195.	375.	345.	345.	566.	810.
160	0.	0.	0.	0.	165.	210.	448.	405.	1391.
170	0.	0.	0.	0.	0.	0.	435.	270.	644.
180	0.	0.	0.	0.	0.	0.	0.	105.	0.

VA AND SCA ARE IN DEGREES. CLOUDS

TABLE 29

IR MEAN RADIANCE AS A FUNCTION OF SCATTERING ANGLE

FILTER 1 INSOL ANGLE 70.0 DEG.

VA SCA	0	10	20	30	40	50	60	70	80
0	0.	0.	0.	0.	0.	0.	0.	0.	0.
10	0.	0.	0.	0.	0.	0.	0.	0.	0.
20	0.	0.	0.	0.	0.	0.	0.	0.	0.
30	0.	0.	0.	0.	0.	0.	0.	0.	2.71
40	0.	0.	0.	0.	0.	0.	0.	11.33	3.24
50	0.	0.	0.	0.	0.	0.	3.64	4.01	1.80
60	0.	0.	0.	0.	0.	0.	1.24	4.76	1.30
70	0.	0.	0.	0.	0.	0.74	1.00	3.75	0.57
80	0.	0.	0.	0.27	0.55	0.73	0.48	3.27	0.90
90	0.	0.	0.12	0.46	0.33	0.40	1.74	2.06	0.54
100	0.	0.14	0.28	0.28	0.24	0.22	0.90	1.13	0.31
110	0.26	0.45	0.29	0.26	0.25	0.22	0.29	1.03	0.26
120	0.67	0.55	0.35	0.26	0.19	0.18	0.24	0.61	0.30
130	0.	0.35	0.38	0.22	0.38	0.18	0.23	0.20	0.27
140	0.	0.	0.45	0.26	0.31	0.29	0.23	0.27	0.32
150	0.	0.	0.	0.40	0.39	0.45	0.26	0.23	0.40
160	0.	0.	0.	0.	0.48	0.39	0.23	0.27	0.47
170	0.	0.	0.	0.	0.	0.	0.27	0.24	0.42
180	0.	0.	0.	0.	0.	0.	0.	0.12	0.

RADIANCE VALUES ARE IN MICROWATTS. CLOUDS VA AND SCA ARE IN DEGREES.

TABLE 30

RMS FLUCTUATION AS A FUNCTION OF SCATTERING ANGLE

FILTER 1 INSOL ANGLE 70.0 DEG.

VA / SCA	0	10	20	30	40	50	60	70	80
0	0.	0.	0.	0.	0.	0.	0.	0.	0.
10	0.	0.	0.	0.	0.	0.	0.	0.	0.
20	0.	0.	0.	0.	0.	0.	0.	0.	0.
30	0.	0.	0.	0.	0.	0.	0.	0.	0.!
40	0.	0.	0.	0.	0.	0.	0.	8.92	3.4
50	0.	0.	0.	0.	0.	0.	4.04	4.30	1.8
60	0.	0.	0.	0.	0.	0.	1.40	5.42	1.4
70	0.	0.	0.	0.	0.	0.49	0.89	5.92	1.0
80	0.	0.	0.	0.29	0.43	0.57	0.42	4.32	0.6
90	0.	0.	0.11	0.46	0.28	0.39	1.12	2.00	0.5
100	0.	0.15	0.25	0.27	0.30	0.20	0.70	0.81	0.3
110	0.27	0.63	0.33	0.30	0.31	0.21	0.42	0.56	0.2
120	0.64	0.68	0.20	0.29	0.35	0.19	0.21	0.62	0.2
130	0.	0.49	0.25	0.24	0.21	0.19	0.21	0.17	0.2
140	0.	0.	0.35	0.28	0.22	0.25	0.28	0.35	0.2
150	0.	0.	0.	0.20	0.33	0.26	0.20	0.36	0.3
160	0.	0.	0.	0.	0.23	0.27	0.28	0.31	0.3
170	0.	0.	0.	0.	0.	0.	0.34	0.16	0.2
180	0.	0.	0.	0.	0.	0.	0.	0.09	0.

RADIANCE VALUES ARE IN MICROWATTS. CLOUDS VA AND SCA ARE IN DEGREES

TABLE 31

NUMBER OF OBSERVATIONS AS A FUNCTION OF SUN AZIMUTH

FILTER 1 INSOL ANGLE 80.0 DEG.

VA SA	0	10	20	30	40	50	60	70	80
0	0.	0.	165.	0.	105.	449.	195.	220.	221.
10	0.	270.	255.	0.	255.	780.	285.	565.	434.
20	165.	509.	0.	0.	284.	1451.	165.	448.	1180.
30	165.	494.	0.	0.	447.	1079.	225.	567.	774.
40	104.	191.	135.	404.	447.	567.	118.	366.	844.
50	0.	149.	0.	674.	254.	330.	120.	314.	925.
60	0.	135.	315.	285.	177.	178.	178.	255.	704.
70	105.	165.	405.	445.	255.	283.	357.	255.	441.
80	315.	120.	522.	210.	419.	270.	240.	370.	255.
90	225.	419.	165.	925.	344.	150.	210.	358.	614.
100	105.	809.	0.	808.	224.	114.	150.	350.	810.
110	165.	971.	225.	1081.	308.	255.	210.	312.	810.
120	105.	942.	0.	953.	207.	300.	299.	360.	701.
130	120.	779.	0.	311.	418.	0.	823.	300.	733.
140	240.	225.	1116.	402.	374.	0.	1290.	535.	794.
150	0.	135.	893.	535.	374.	0.	853.	550.	475.
160	0.	195.	480.	597.	535.	0.	524.	988.	374.
170	165.	223.	433.	849.	671.	0.	493.	988.	268.
180	0.	148.	238.	434.	387.	0.	224.	420.	165.

VA AND SA ARE IN MICROWATTS. CLOUDS

TABLE 32

IR MEAN RADIANCE AS A FUNCTION OF SUN AZIMUTH

FILTER 1 INSOL ANGLE 80.0 DEG.

VA / SA	0	10	20	30	40	50	60	70	80
0	0.	0.	0.14	0.	0.12	2.30	0.96	0.23	17.85
10	0.	0.10	0.10	0.	0.15	1.90	0.56	0.71	12.84
20	0.08	0.10	0.	0.	0.17	0.88	0.10	0.49	2.67
30	0.09	0.11	0.	0.	0.23	0.68	0.35	0.21	1.90
40	0.08	0.15	0.08	0.15	0.22	0.78	0.18	0.20	1.47
50	0.	0.14	0.	0.11	0.15	0.25	0.20	0.17	1.29
60	0.	0.12	0.08	0.30	0.11	0.17	0.16	0.11	1.29
70	0.08	0.12	0.09	0.53	0.11	0.16	0.16	0.15	1.37
80	0.08	0.10	0.09	0.53	0.11	0.17	0.11	0.13	0.85
90	0.09	0.11	0.09	0.14	0.12	0.12	0.09	0.12	0.38
100	0.08	0.12	0.	0.10	0.14	0.25	0.09	0.10	0.34
110	0.09	0.11	0.09	0.12	0.13	0.08	0.15	0.09	0.37
120	0.09	0.09	0.	0.13	0.15	0.10	0.13	0.09	0.21
130	0.09	0.10	0.	0.08	0.13	0.	0.12	0.11	0.11
140	0.08	0.11	0.16	0.08	0.11	0.	0.16	0.10	0.14
150	0.	0.11	0.17	0.08	0.12	0.	0.13	0.10	0.13
160	0.	0.13	0.11	0.08	0.13	0.	0.13	0.11	0.12
170	0.09	0.16	0.13	0.08	0.14	0.	0.14	0.12	0.37
180	0.	0.22	0.22	0.10	0.16	0.	0.16	0.13	0.46

RADIANCE VALUES ARE IN MICROWATTS. CLOUDS VA AND SA ARE IN DEGREES.

TABLE 33

IR RMS FLUCTUATION AS A FUNCTION OF SUN AZIMUTH

FILTER 1 INSOL ANGLE 80.0 DEG.

VA / SA	0	10	20	30	40	50	60	70	80
0	0.	0.	0.10	0.	0.13	0.12	0.58	0.40	7.74
10	0.	0.08	0.08	0.	0.21	0.61	0.45	0.79	8.82
20	0.06	0.08	0.	0.	0.15	0.70	0.08	0.77	3.44
30	0.08	0.15	0.	0.	0.23	0.66	0.33	0.28	2.16
40	0.08	0.21	0.06	0.12	0.21	0.54	0.29	0.25	2.05
50	0.	0.16	0.	0.09	0.21	0.36	0.31	0.16	2.26
60	0.	0.08	0.07	0.33	0.08	0.20	0.24	0.09	1.80
70	0.06	0.09	0.08	0.46	0.12	0.21	0.21	0.10	1.16
80	0.07	0.09	0.07	0.22	0.11	0.13	0.08	0.11	0.36
90	0.09	0.13	0.07	0.19	0.15	0.16	0.08	0.16	0.20
100	0.06	0.21	0.	0.11	0.15	0.38	0.08	0.14	0.21
110	0.08	0.15	0.07	0.20	0.11	0.07	0.30	0.08	0.25
120	0.09	0.09	0.	0.21	0.25	0.07	0.19	0.08	0.22
130	0.09	0.15	0.	0.06	0.24	0.	0.15	0.09	0.09
140	0.07	0.10	0.24	0.06	0.13	0.	0.25	0.10	0.11
150	0.	0.09	0.27	0.07	0.18	0.	0.16	0.07	0.15
160	0.	0.14	0.09	0.07	0.16	0.	0.20	0.10	0.09
170	0.07	0.27	0.14	0.06	0.19	0.	0.18	0.10	0.17
180	0.	0.38	0.33	0.08	0.25	0.	0.24	0.11	0.11

RADIANCE VALUES ARE IN MICROWATTS. CLOUDS VA AND SA ARE IN DEGREES.

TABLE 34

NUMBER OF OBSERVATIONS AS A FUNCTION OF SCATTERING ANGLE

FILTER 1 INSOL ANGLE 80.0 DEG.

VA SCA	0	10	20	30	40	50	60	70	80
0	0.	0.	0.	0.	0.	0.	0.	0.	0.
10	0.	0.	0.	0.	0.	0.	0.	0.	0.
20	0.	0.	0.	0.	0.	0.	0.	0.	460.
30	0.	0.	0.	0.	0.	0.	0.	714.	1402.
40	0.	0.	0.	0.	0.	0.	450.	1026.	1083.
50	0.	0.	0.	0.	0.	2472.	434.	426.	1090.
60	0.	0.	0.	0.	418.	1764.	224.	329.	867.
70	0.	0.	0.	0.	970.	509.	177.	285.	546.
80	0.	0.	0.	749.	656.	237.	388.	342.	240.
90	0.	848.	630.	1225.	434.	450.	300.	431.	600.
100	135.	1541.	1035.	1043.	598.	178.	180.	420.	824.
110	1874.	3787.	702.	2396.	428.	0.	210.	326.	810.
120	0.	791.	2935.	772.	340.	465.	239.	405.	701.
130	0.	0.	300.	1169.	674.	0.	1119.	330.	778.
140	0.	0.	0.	1590.	1967.	0.	1249.	535.	809.
150	0.	0.	0.	0.	0.	0.	972.	595.	490.
160	0.	0.	0.	0.	0.	0.	912.	1166.	478.
170	0.	0.	0.	0.	0.	0.	105.	915.	344.
180	0.	0.	0.	0.	0.	0.	0.	285.	0.

VA AND SCA ARE IN MICROWATTS. CLOUDS

TABLE 35

IR MEAN RADIANCE AS A FUNCTION OF SCATTERING ANGLE

FILTER 1 INSOL ANGLE 80.0 DEG.

VA / SCA	0	10	20	30	40	50	60	70	80
0	0.	0.	0.	0.	0.	0.	0.	0.	0.
10	0.	0.	0.	0.	0.	0.	0.	0.	0.
20	0.	0.	0.	0.	0.	0.	0.	.0.	18.91
30	0.	0.	0.	0.	0.	0.	0.	0.14	2.95
40	0.	0.	0.	0.	0.	0.	0.33	0.63	1.86
50	0.	0.	0.	0.	0.	1.53	0.62	0.26	1.32
60	0.	0.	0.	0.	0.16	0.66	0.31	0.16	1.32
70	0.	0.	0.	0.	0.19	0.22	0.17	0.13	1.05
80	0.	0.	0.	0.18	0.17	0.19	0.14	0.14	1.10
90	0.	0.13	0.11	0.35	0.12	0.15	0.12	0.13	0.42
100	0.08	0.12	0.09	0.14	0.12	0.17	0.10	0.10	0.32
110	0.09	0.10	0.09	0.12	0.12	0.	0.12	0.08	0.40
120	0.	0.14	0.16	0.08	0.18	0.09	0.15	0.09	0.24
130	0.	0.	0.08	0.08	0.10	0.	0.14	0.11	0.11
140	0.	0.	0.	0.09	0.14	0.	0.15	0.10	0.14
150	0.	0.	0.	0.	0.	0.	0.14	0.10	0.13
160	0.	0.	0.	0.	0.	0.	0.13	0.11	0.18
170	0.	0.	0.	0.	0.	0.	0.09	0.13	0.40
180	0.	0.	0.	0.	0.	0.	0.	0.15	0.

RADIANCE VALUES ARE IN MICROWATTS. CLOUDS VA AND SCA ARE IN DEGREES.

TABLE 36

RMS FLUCTUATION AS A FUNCTION OF SCATTERING ANGLE

FILTER 1 INSOL ANGLE 80.0 DEG.

VA / SCA	0	10	20	30	40	50	60	70	80
0	0.	0.	0.	0.	0.	0.	0.	0.	0.
10	0.	0.	0.	0.	0.	0.	0.	0.	0.
20	0.	0.	0.	0.	0.	0.	0.	0.	6.72
30	0.	0.	0.	0.	0.	0.	0.	0.18	3.37
40	0.	0.	0.	0.	0.	0.	0.50	0.79	1.86
50	0.	0.	0.	0.	0.	0.81	0.49	0.33	2.27
60	0.	0.	0.	0.	0.22	0.59	0.30	0.15	1.84
70	0.	0.	0.	0.	0.20	0.26	0.24	0.11	1.18
80	0.	0.	0.	0.15	0.16	0.26	0.19	0.10	0.30
90	0.	0.17	0.09	0.39	0.12	0.12	0.10	0.16	0.23
100	0.06	0.17	0.07	0.19	0.15	0.30	0.08	0.13	0.17
110	0.08	0.12	0.07	0.19	0.11	0.	0.23	0.08	0.27
120	0.	0.24	0.24	0.06	0.31	0.07	0.24	0.08	0.23
130	0.	0.	0.06	0.06	0.11	0.	0.20	0.09	0.09
140	0.	0.	0.	0.07	0.20	0.	0.22	0.10	0.11
150	0.	0.	0.	0.	0.	0.	0.20	0.07	0.15
160	0.	0.	0.	0.	0.	0.	0.18	0.10	0.16
170	0.	0.	0.	0.	0.	0.	0.14	0.10	0.16
180	0.	0.	0.	0.	0.	0.	0.	0.12	0.

RADIANCE VALUES ARE IN MICROWATTS. CLOUDS VA AND SCA ARE IN DEGREES.

TABLE 37

NUMBER OF OBSERVATIONS AS A FUNCTION OF SUN AZIMUTH

FILTER 1 INSOL ANGLE 90.0 DEG.

VA SA	0	10	20	30	40	50	60	70	80
0	0.	0.	0.	748.	133.	1260.	390.	837.	640.
10	0.	0.	0.	1318.	270.	1618.	388.	1934.	1413.
20	0.	0.	0.	2127.	165.	1275.	629.	2025.	927.
30	0.	0.	0.	1588.	210.	1185.	314.	1955.	1303.
40	0.	0.	0.	1665.	135.	960.	510.	1569.	1185.
50	0.	0.	0.	1692.	0.	989.	630.	1575.	1182.
60	0.	0.	0.	1181.	135.	1065.	134.	1768.	2280.
70	0.	0.	0.	775.	103.	1124.	0.	1764.	1980.
80	0.	0.	0.	765.	134.	1094.	105.	1844.	1439.
90	0.	0.	0.	869.	224.	1300.	105.	1644.	825.
100	0.	0.	0.	658.	149.	1225.	135.	1454.	900.
110	0.	0.	0.	599.	165.	1179.	150.	1162.	780.
120	0.	0.	0.	1015.	149.	1084.	105.	1485.	645.
130	0.	0.	0.	904.	163.	1158.	135.	1179.	1275.
140	0.	0.	0.	1687.	194.	1265.	105.	968.	1050.
150	0.	0.	0.	1552.	179.	1308.	279.	908.	1065.
160	0.	0.	0.	1858.	208.	1084.	242.	917.	1197.
170	0.	0.	0.	1290.	0.	585.	194.	1224.	1050.
180	0.	0.	0.	532.	0.	346.	134.	596.	435.

VA AND SA ARE IN DEGREES. CLOUDS

TABLE 38

IR MEAN RADIANCE AS A FUNCTION OF SUN AZIMUTH

FILTER 1 INSOL ANGLE 90.0 DEG.

VA SA	0	10	20	30	40	50	60	70	80
0	0.	0.	0.	0.38	0.94	1.42	2.84	4.65	32.35
10	0.	0.	0.	0.35	0.89	1.37	2.48	7.34	28.16
20	0.	0.	0.	0.29	0.97	1.67	2.34	12.40	14.16
30	0.	0.	0.	0.40	0.83	1.88	2.30	10.79	9.68
40	0.	0.	0.	0.31	0.35	1.19	2.02	5.86	4.34
50	0.	0.	0.	0.32	0.	0.79	2.46	2.66	3.15
60	0.	0.	0.	0 36	0.18	0.81	0.85	0.94	1.60
70	0.	0.	0.	0.38	0.19	1.22	0.	0.79	0.75
80	0.	0.	0.	0.25	0.18	0.39	0.42	0.66	0.93
90	0.	0.	0.	0.17	0.18	0.45	0.59	0.63	0.29
100	0.	0.	0.	0.14	0.27	0.23	0.67	0.54	0.09
110	0.	0.	0.	0.20	0.22	0.22	0.20	0.19	0.08
120	0.	0.	0.	0.24	0.25	0.32	0.16	0.20	0.09
130	0.	0.	0.	0.21	0.23	0.25	0.16	0.19	0.15
140	0.	0.	0.	0.23	0.20	0.22	0.16	0.18	0.17
150	0.	0.	0.	0.20	0.27	0.18	0.28	0.21	0.10
160	0.	0.	0.	0.19	0.20	0.20	0.29	0.18	0.09
170	0.	0.	0.	0.14	0.	0.24	0.24	0.21	0.11
180	0.	0.	0.	0.16	0.	0.22	0.19	0.21	0.14

RADIANCE VALUES ARE IN MICROWATTS. CLOUDS VA AND SA ARE IN DEGREES.

TABLE 39

IR RMS FLUCTUATION AS A FUNCTION OF SUN AZIMUTH

FILTER 1 INSOL ANGLE 90.0 DEG.

VA / SA	0	10	20	30	40	50	60	70	80
0	0.	0.	0.	0.21	0.23	0.71	0.66	2.23	9.42
10	0.	0.	0.	0.23	0.33	0.61	0.81	7.32	11.15
20	0.	0.	0.	0.28	0.51	0.95	0.56	11.95	10.87
30	0.	0.	0.	0.37	0.43	1.54	0.95	10.93	6.90
40	0.	0.	0.	0.34	0.24	0.47	1.17	7.42	1.88
50	0.	0.	0.	0.36	0.	0.46	1.12	2.94	1.67
60	0.	0.	0.	0.38	0.13	0.61	0.27	0.95	1.63
70	0.	0.	0.	0.32	0.14	1.68	0.	0.61	0.87
80	0.	0.	0.	0.17	0.14	0.29	0.19	0.66	0.96
90	0.	0.	0.	0.14	0.14	0.49	0.22	0.75	0.38
100	0.	0.	0.	0.12	0.16	0.26	0.58	0.90	0.07
110	0.	0.	0.	0.19	0.15	0.21	0.15	0.15	0.07
120	0.	0.	0.	0.18	0.15	0.48	0.12	0.15	0.07
130	0.	0.	0.	0.16	0.15	0.22	0.13	0.15	0.16
140	0.	0.	0.	0.17	0.15	0.16	0.13	0.14	0.25
150	0.	0.	0.	0.16	0.17	0.16	0.16	0.15	0.08
160	0.	0.	0.	0.15	0.14	0.17	0.16	0.14	0.09
170	0.	0.	0.	0.13	0.	0.20	0.15	0.15	0.10
180	0.	0.	0.	0.09	0.	0.19	0.14	0.15	0.11

RADIANCE VALUES ARE IN MICROWATTS. CLOUDS VA AND SA ARE IN DEGREES.

TABLE 40

NUMBER OF OBSERVATIONS AS A FUNCTION OF SCATTERING ANGLE

FILTER 1 INSOL ANGLE 90.0 DEG.

VA / SCA	0	10	20	30	40	50	60	70	80
0	0.	0.	0.	0.	0.	0.	0.	0.	0.
10	0.	0.	0.	0.	0.	0.	0.	958.	366.
20	0.	0.	0.	0.	0.	0.	0.	2577.	2149.
30	0.	0.	0.	0.	0.	0.	1077.	2474.	1333.
40	0.	0.	0.	0.	403.	2893.	674.	1981.	1305.
50	0.	0.	0.	0.	420.	2775.	720.	1770.	1287.
60	0.	0.	0.	4251.	165.	1589.	464.	1768.	2190.
70	0.	0.	0.	4988.	195.	1515.	135.	1854.	2145.
80	0.	0.	0.	2365.	192.	1543.	120.	1934.	1455.
90	0.	0.	0.	1467.	253.	1687.	150.	1689.	914.
100	0.	0.	0.	1239.	270.	1614.	135.	1409.	885.
110	0.	0.	0.	5124.	267.	1696.	135.	1367.	825.
120	0.	0.	0.	1801.	329.	1962.	195.	1489.	645.
130	0.	0.	0.	1588.	297.	2413.	179.	1267.	1245.
140	0.	0.	0.	0.	0.	1297.	506.	996.	1050.
150	0.	0.	0.	0.	0.	120.	269.	1101.	1184.
160	0.	0.	0.	0.	0.	0.	0.	2174.	1243.
170	0.	0.	0.	0.	0.	0.	0.	0.	1155.
180	0.	0.	0.	0.	0.	0.	0.	0.	195.

VA AND SCA ARE IN DEGREES. CLOUDS

TABLE 41

IR MEAN RADIANCE AS A FUNCTION OF SCATTERING ANGLE

FILTER 1 INSOL ANGLE 90.0 DEG.

VA / SCA	0	10	20	30	40	50	60	70	80
0	0.	0.	0.	0.	0.	0.	0.	0.	0.
10	0.	0.	0.	0.	0.	0.	0.	4.40	22.17
20	0.	0.	0.	0.	0.	0.	0.	10.27	28.39
30	0.	0.	0.	0.	0.	0.	2.64	11.16	10.46
40	0.	0.	0.	0.	0.90	1.25	2.37	7.04	5.34
50	0.	0.	0.	0.	0.85	1.85	1.75	2.97	3.53
60	0.	0.	0.	0.41	0.23	0.96	2.62	0.97	1.76
70	0.	0.	0.	0.29	0.18	0.80	0.56	0.83	0.79
80	0.	0.	0.	0.30	0.18	0.92	0.43	0.66	0.90
90	0.	0.	0.	0.19	0.19	0.38	0.51	0.60	0.42
100	0.	0.	0.	0.15	0.24	0.23	0.58	0.54	0.08
110	0.	0.	0.	0.22	0.24	0.27	0.19	0.19	0.08
120	0.	0.	0.	0.22	0.22	0.29	0.17	0.20	0.09
130	0.	0.	0.	0.12	0.22	0.20	0.20	0.19	0.14
140	0.	0.	0.	0.	0.	0.21	0.29	0.20	0.19
150	0.	0.	0.	0.	0.	0.07	0.21	0.19	0.11
160	0.	0.	0.	0.	0.	0.	0.	0.21	0.09
170	0.	0.	0.	0.	0.	0.	0.	0.	0.12
180	0.	0.	0.	0.	0.	0.	0.	0.	0.12

RADIANCE VALUES ARE IN MICROWATTS. CLOUDS VA AND SCA ARE IN DEGREES.

TABLE 42

RMS FLUCTUATION AS A FUNCTION OF SCATTERING ANGLE

FILTER 1 INSOL ANGLE 90.0 DEG.

VA / SCA	0	10	20	30	40	50	60	70	80
0	0.	0.	0.	0.	0.	0.	0.	0.	0.
10	0.	0.	0.	0.	0.	0.	0.	2.37	3.56
20	0.	0.	0.	0.	0.	0.	0.	10.09	12.54
30	0.	0.	0.	0.	0.	0.	0.74	11.25	7.45
40	0.	0.	0.	0.	0.30	0.48	0.88	8.59	2.89
50	0.	0.	0.	0.	0.47	1.26	0.80	3.14	1.60
60	0.	0.	0.	0.27	0.20	0.54	1.28	1.03	1.72
70	0.	0.	0.	0.34	0.14	0.71	0.23	0.61	0.91
80	0.	0.	0.	0.34	0.14	1.43	0.19	0.65	0.95
90	0.	0.	0.	0.14	0.14	0.39	0.24	0.74	0.58
100	0.	0.	0.	0.13	0.16	0.32	0.62	0.91	0.07
110	0.	0.	0.	0.17	0.16	0.31	0.14	0.15	0.07
120	0.	0.	0.	0.18	0.15	0.33	0.13	0.15	0.07
130	0.	0.	0.	0.09	0.15	0.16	0.16	0.15	0.15
140	0.	0.	0.	0.	0.	0.19	0.16	0.15	0.26
150	0.	0.	0.	0.	0.	0.06	0.14	0.15	0.09
160	0.	0.	0.	0.	0.	0.	0.	0.15	0.07
170	0.	0.	0.	0.	0.	0.	0.	0.	0.11
180	0.	0.	0.	0.	0.	0.	0.	0.	0.08

RADIANCE VALUES ARE IN MICROWATTS. CLOUDS VA AND SCA ARE IN DEGREES.

TABLE 43

NUMBER OF OBSERVATIONS AS A FUNCTION OF SUN AZIMUTH

FILTER 1 INSOL. ANGLE 50.0 DEG.

VA SA	0	10	20	30	40	50	60	70	80
0	0.	0.	899.	313.	840.	510.	688.	1608.	163.
10	105.	359.	1312.	970.	1437.	1267.	850.	2799.	132.
20	0.	266.	1216.	1266.	1168.	1345.	1152.	3087.	223.
30	0.	380.	954.	1208.	1745.	1481.	1059.	3801.	207.
40	135.	551.	689.	1235.	1388.	1600.	1319.	4715.	296.
50	0.	225.	539.	1311.	1619.	1230.	1600.	5412.	0.
60	0.	282.	956.	1630.	731.	1163.	2548.	3639.	134.
70	0.	1300.	929.	1761.	790.	1034.	2395.	3622.	0.
80	0.	804.	1064.	1938.	834.	1314.	2514.	3105.	115.
90	149.	534.	733.	1512.	1079.	1664.	2394.	3888.	0.
100	0.	389.	552.	1433.	1465.	1704.	2768.	5231.	298.
110	0.	418.	463.	1407.	809.	1462.	2697.	3419.	119.
120	0.	599.	448.	1810.	713.	1641.	1895.	3740.	0.
130	0.	360.	435.	1841.	734.	1508.	2007.	3749.	255.
140	208.	672.	583.	2215.	777.	1553.	2305.	3479.	133.
150	0.	774.	592.	2551.	630.	1099.	1734.	2678.	218.
160	0.	835.	427.	2120.	687.	831.	1658.	2620.	134.
170	177.	775.	385.	2888.	689.	718.	1524.	2621.	144.
180	0.	315.	149.	868.	480.	360.	1154.	1603.	179.

VA AND SA ARE IN DEGREES. CLEAR

TABLE 44

IR MEAN RADIANCE AS A FUNCTION OF SUN AZIMUTH

FILTER 1 INSOL ANGLE 50.0 DEG.

VA SA	0	10	20	30	40	50	60	70	80
0	0.	0.	1.23	1.13	0.84	0.71	0.88	0.80	0.11
10	1.82	1.73	1.44	1.27	0.78	0.71	0.77	0.77	0.27
20	0.	1.02	1.31	1.34	0.72	0.71	0.82	0.77	0.33
30	0.	0.78	1.08	1.02	0.78	0.59	0.72	0.88	0.24
40	0.90	1.06	1.35	1.12	0.68	0.66	0.53	0.86	0.17
50	0.	1.22	1.00	0.65	0.41	0.49	0.64	0.82	0.
60	0.	1.36	0.70	0.58	0.56	0.37	0.53	0.53	0.39
70	0.	1.40	0.83	0.59	0.66	0.32	0.47	0.60	0.
80	0.	1.34	0.90	0.69	0.67	0.39	0.53	0.46	0.35
90	2.50	2.04	1.56	0.55	1.06	0.63	0.76	0.61	0.
100	0.	1.61	1.11	0.79	0.75	0.64	0.74	0.74	0.98
110	0.	1.22	0.99	0.47	0.39	0.41	0.71	0.48	0.53
120	0.	1.22	0.64	0.47	0.62	0.51	0.54	0.50	0.
130	0.	1.12	0.79	0.52	0.52	0.48	0.61	0.61	1.10
140	1.50	1.27	0.91	0.74	0.67	0.59	0.59	0.48	0.13
150	0.	1.22	0.76	0.80	0.52	0.77	0.66	0.50	0.70
160	0.	1.10	1.27	0.77	0.76	0.85	0.70	0.60	0.48
170	1.94	1.47	1.96	0.87	1.33	1.20	0.83	0.68	1.26
180	0.	1.44	1.69	0.50	0.84	1.61	0.87	0.83	1.51

RADIANCE VALUES ARE IN MICROWATTS. CLEAR VA AND SA ARE IN DEGREES.

TABLE 45

IR RMS FLUCTUATION AS A FUNCTION OF SUN AZIMUTH

FILTER 1 INSOL ANGLE 50.0 DEG.

VA / SA	0	10	20	30	40	50	60	70	80
0	0.	0.	0.48	0.47	0.62	0.47	0.67	0.66	0.10
10	1.00	1.09	0.72	0.69	0.79	0.74	0.71	0.69	0.44
20	0.	1.02	0.59	0.69	0.74	0.79	0.61	0.58	0.21
30	0.	0.91	0.63	0.66	0.76	0.73	0.71	1.05	0.22
40	1.24	1.13	0.99	1.02	0.84	0.75	0.55	0.92	0.16
50	0.	0.77	0.59	0.63	0.47	0.54	0.54	0.59	0.
60	0.	0.76	0.58	0.57	0.61	0.44	0.53	0.48	0.38
70	0.	0.49	0.70	0.61	0.63	0.36	0.48	0.52	0.
80	0.	0.65	0.86	0.65	0.86	0.67	0.52	0.42	0.26
90	1.17	1.09	1.29	0.77	1.18	0.86	0.80	0.58	0.
100	0.	0.82	1.12	1.08	1.01	0.95	0.79	0.68	0.70
110	0.	0.80	0.98	0.63	0.51	0.48	0.55	0.47	0.66
120	0.	0.62	0.65	0.61	0.80	0.68	0.60	0.46	0.
130	0.	0.73	0.67	0.52	0.52	0.61	0.68	0.53	0.86
140	1.50	1.12	1.07	0.72	0.90	0.66	0.59	0.43	0.12
150	0.	0.76	0.72	0.68	0.72	0.78	0.63	0.45	0.87
160	0.	0.71	1.27	0.76	1.11	1.02	0.93	0.63	0.66
170	1.23	0.93	1.36	0.80	1.38	1.19	0.89	0.71	0.97
180	0.	0.79	1.35	0.86	1.21	1.63	0.82	0.94	0.90

RADIANCE VALUES ARE IN MICROWATTS. CLEAR VA AND SA ARE IN DEGREES.

TABLE 46

NUMBER OF OBSERVATIONS AS A FUNCTION OF SCATTERING ANGLE

FILTER 1 INSOL ANGLE 50.0 DEG.

VA / SCA	0	10	20	30	40	50	60	70	80
0	0.	0.	0.	0.	0.	0.	0.	0.	0.
10	0.	0.	0.	0.	0.	0.	0.	0.	0.
20	0.	0.	0.	0.	0.	0.	0.	0.	0.
30	0.	0.	0.	0.	0.	0.	0.	0.	0.
40	0.	0.	0.	0.	0.	0.	0.	0.	0.
50	0.	0.	0.	0.	0.	0.	0.	0.	280.
60	0.	0.	0.	0.	0.	0.	0.	2293.	577.
70	0.	0.	0.	0.	0.	0.	730.	12864.	265.
80	0.	0.	0.	0.	0.	442.	3723.	9006.	180.
90	0.	0.	0.	0.	2915.	4876.	3532.	5420.	0.
100	0.	0.	0.	1528.	4635.	3025.	4702.	5433.	280.
110	0.	0.	739.	4225.	2495.	2257.	3832.	6821.	238.
120	0.	1021.	6433.	4762.	1916.	2887.	4102.	5107.	0.
130	1436.	3795.	2485.	3509.	1810.	2481.	3213.	5782.	344.
140	210.	2713.	1419.	3438.	1192.	2280.	3101.	5479.	408.
150	0.	2382.	1885.	4383.	1196.	2273.	2946.	5972.	251.
160	0.	0.	358.	5958.	1049.	1424.	3845.	657.	0.
170	0.	0.	0.	2474.	1122.	1254.	535.	0.	0.
180	0.	0.	0.	0.	285.	285.	0.	0.	0.

VA AND SCA ARE IN DEGREES. CLEAR

TABLE 47

IR MEAN RADIANCE AS A FUNCTION OF SCATTERING ANGLE

FILTER 1 INSOL ANGLE 50.0 DEG.

VA SCA	0	10	20	30	40	50	60	70	80
0	0.	0.	0.	0.	0.	0.	0.	0.	0.
10	0.	0.	0.	0.	0.	0.	0.	0.	0.
20	0.	0.	0.	0.	0.	0.	0.	0.	0.
30	0.	0.	0.	0.	0.	0.	0.	0.	0.
40	0.	0.	0.	0.	0.	0.	0.	0.	0.
50	0.	0.	0.	0.	0.	0.	0.	0.	0.24
60	0.	0.	0.	0.	0.	0.	0.	0.98	0.23
70	0.	0.	0.	0.	0.	0.	1.19	0.78	0.17
80	0.	0.	0.	0.	0.	1.39	0.70	0.74	0.55
90	0.	0.	0.	0.	1.02	0.62	0.61	0.60	0.
100	0.	0.	0.	1.40	0.57	0.47	0.48	0.56	0.97
110	0.	0.	1.52	1.11	0.47	0.42	0.71	0.69	0.72
120	0.	1.32	1.06	0.63	1.02	0.63	0.71	0.49	0.
130	1.48	1.40	1.24	0.59	0.53	0.45	0.58	0.55	0.65
140	0.64	1.26	0.93	0.45	0.49	0.45	0.62	0.49	0.60
150	0.	1.24	1.13	0.63	0.67	0.60	0.61	0.60	1.69
160	0.	0.	0.93	0.70	0.67	0.68	0.72	1.49	0.
170	0.	0.	0.	0.96	1.16	1.12	1.17	0.	0.
180	0.	0.	0.	0.	0.39	1.81	0.	0.	0.

RADIANCE VALUES ARE IN MICROWATTS. CLEAR VA AND SCA ARE IN DEGREES.

TABLE 48

RMS FLUCTUATION AS A FUNCTION OF SCATTERING ANGLE

FILTER 1 INSOL ANGLE 50.0 DEG.

VA / SCA	0	10	20	30	40	50	60	70	80
0	0.	0.	0.	0.	0.	0.	0.	0.	0.
10	0.	0.	0.	0.	0.	0.	0.	0.	0.
20	0.	0.	0.	0.	0.	0.	0.	0.	0.
30	0.	0.	0.	0.	0.	0.	0.	0.	0.
40	0.	0.	0.	0.	0.	0.	0.	0.	0.
50	0.	0.	0.	0.	0.	0.	0.	0.	0.21
60	0.	0.	0.	0.	0.	0.	0.	0.64	0.28
70	0.	0.	0.	0.	0.	0.	0.69	0.85	0.14
80	0.	0.	0.	0.	0.	1.19	0.63	0.65	0.47
90	0.	0.	0.	0.	0.75	0.66	0.54	0.50	0.
100	0.	0.	0.	0.97	0.69	0.55	0.50	0.53	0.62
110	0.	0.	1.29	0.64	0.58	0.65	0.76	0.65	0.76
120	0.	1.16	0.65	0.68	1.18	0.92	0.67	0.46	0.
130	1.36	0.87	1.03	0.83	0.74	0.60	0.56	0.47	0.83
140	0.96	1.03	0.92	0.58	0.61	0.53	0.65	0.46	0.77
150	0.	0.41	1.15	0.69	0.86	0.74	0.61	0.60	0.84
160	0.	0.	0.89	0.78	0.99	0.75	0.75	1.39	0.
170	0.	0.	0.	0.62	1.31	1.11	1.50	0.	0.
180	0.	0.	0.	0.	0.70	1.76	0.	0.	0.

RADIANCE VALUES ARE IN MICROWATTS. CLEAR VA AND SCA ARE IN DEGREES.

TABLE 49

NUMBER OF OBSERVATIONS AS A FUNCTION OF SUN AZIMUTH

FILTER 1 INSOL ANGLE 60.0 DEG.

VA SA	0	10	20	30	40	50	60	70	80
0	0.	0.	0.	109.	149.	140.	217.	328.	181.
10	0.	154	681.	0.	175.	0.	231.	434.	290.
20	0.	0.	225.	0.	129.	0.	282.	479.	279.
30	0.	0.	196.	0.	100.	0.	268.	396.	233.
40	0.	0.	290.	0.	199.	176.	310.	498.	282.
50	0.	0.	149.	0.	132.	416.	279.	287.	318.
60	0.	0.	135.	0.	120.	257.	390.	284.	317.
70	0.	209.	210.	179.	221.	339.	495.	352.	310.
80	0.	105.	135.	0.	132.	380.	150.	366.	318.
90	0.	0.	195.	0.	221.	409.	164.	482.	233.
100	0.	0.	195.	0.	242.	0.	210.	275.	304.
110	0.	0.	225.	105.	186.	0.	195.	264.	208.
120	0.	0.	135.	104.	103.	118.	163.	389.	431.
130	0.	0.	0.	0.	0.	0.	0.	348.	240.
140	0.	0.	100.	0.	280.	0.	0.	671.	246.
150	0.	0.	128.	0.	336.	0.	155.	888.	252.
160	0.	0.	129.	152.	334.	115.	178.	255.	297.
170	0.	152.	189.	166.	390.	126.	196.	403.	353.
180	0.	0.	116.	0.	193.	0.	0.	191.	0.

VA AND SA ARE IN DEGREES. CLEAR

TABLE 50

IR MEAN RADIANCE AS A FUNCTION OF SUN AZIMUTH

FILTER 1 INSOL ANGLE 60.0 DEG.

VA SA	0	10	20	30	40	50	60	70	80
0	0.	0.	0.	0.72	0.68	0.68	0.72	0.33	0.25
10	0.	0.78	0.56	0.	0.64	0.	0.76	0.34	0.27
20	0.	0.	0.51	0.	0.42	0.	0.58	0.30	0.26
30	0.	0.	0.72	0.	0.61	0.	0.93	0.35	0.27
40	0.	0.	1.60	0.	1.23	0.80	0.55	0.23	0.23
50	0.	0.	1.36	0.	1.88	0.85	1.27	0.34	0.22
60	0.	0.	0.42	0.	0.34	0.41	0.55	0.19	0.21
70	0.	0.60	0.54	0.60	0.51	0.51	0.54	0.26	0.19
80	0.	0.58	0.48	0.	0.40	0.45	0.58	0.28	0.14
90	0.	0.	0.54	0.	0.39	0.43	0.48	0.34	0.28
100	0.	0.	0.57	0.	0.44	0.	0.49	0.33	0.19
110	0.	0.	0.58	0.55	0.49	0.	0.51	0.30	0.31
120	0.	0.	0.57	0.46	0.46	0.46	0.46	0.26	0.24
130	0.	0.	0.	0.	0.	0.	0.	0.26	0.25
140	0.	0.	0.60	0.	0.86	0.	0.	0.22	0.26
150	0.	0.	1.70	0.	1.15	0.	0.82	0.43	0.31
160	0.	0.	0.81	1.81	0.51	2.14	1.85	0.52	0.30
170	0.	0.82	1.10	0.77	0.52	0.63	0.80	0.49	0.32
180	0.	0.	0.91	0.	0.48	0.	0.	0.44	0.

RADIANCE VALUES ARE IN MICROWATTS. CLEAR VA AND SA ARE IN DEGREES.

TABLE 51

IR RMS FLUCTUATION AS A FUNCTION OF SUN AZIMUTH

FILTER 1 INSOL ANGLE 60.0 DEG.

VA SA	0	10	20	30	40	50	60	70	80
0	0.	0.	0.	1.50	0.93	1.13	0.82	0.38	0.17
10	0.	1.59	0.71	0.	1.03	0.	0.64	0.33	0.25
20	0.	0.	0.48	0.	0.75	0.	0.30	0.30	0.26
30	0.	0.	1.21	0.	1.04	0.	1.44	0.55	0.24
40	0.	0.	2.92	0.	2.20	1.20	0.30	0.27	0.25
50	0.	0.	2.70	0.	2.95	1.51	1.48	0.39	0.26
60	0.	0.	0.07	0.	0.17	0.22	0.08	0.23	0.34
70	0.	0.19	0.16	0.18	0.22	0.22	0.10	0.27	0.22
80	0.	0.16	0.10	0.	0.23	0.25	0.18	0.25	0.14
90	0.	0.	0.14	0.	0.19	0.22	0.14	0.27	0.33
100	0.	0.	0.12	0.	0.23	0.	0.13	0.28	0.21
110	0.	0.	0.15	0.19	0.18	0.	0.16	0.36	0.34
120	0.	0.	0.18	0.23	0.17	0.19	0.20	0.26	0.26
130	0.	0.	0.	0.	0.	0.	0.	0.23	0.22
140	0.	0.	3.43	0.	1.98	0.	0.	0.19	0.19
150	0.	0.	2.77	0.	2.42	0.	1.32	1.06	0.28
160	0.	0.	1.24	2.69	0.85	2.82	2.37	0.87	0.16
170	0.	1.41	1.88	1.59	1.07	1.30	1.44	0.75	0.25
180	0.	0.	1.23	0.	0.49	0.	0.	0.53	0.21

RADIANCE VALUES ARE IN MICROWATTS CLEAR VA AND SA ARE IN DEGREES.

TABLE 52

NUMBER OF OBSERVATIONS AS A FUNCTION OF SCATTERING ANGLE

FILTER 1 INSOL ANGLE 60.0 DEG.

VA / SCA	0	10	20	30	40	50	60	70	80
0	0.	0.	0.	0.	0.	0.	0.	0.	0.
10	0.	0.	0.	0.	0.	0.	0.	0.	0.
20	0.	0.	0.	0.	0.	0.	0.	0.	0.
30	0.	0.	0.	0.	0.	0.	0.	0.	0.
40	0.	0.	0.	0.	0.	0.	0.	0.	574.
50	0.	0.	0.	0.	0.	0.	0.	188.	532.
60	0.	0.	0.	0.	0.	0.	115.	1551.	432.
70	0.	0.	0.	0.	0.	148.	717.	714.	437.
80	0.	0.	0.	0.	106.	274.	635.	404.	404.
90	0.	0.	0.	199.	655.	651.	705.	524.	310.
100	0.	0.	709.	180.	378.	564.	480.	566.	362.
110	0.	306.	1117.	299.	336.	715.	269	325.	369.
120	463.	743.	555.	165.	385.	0.	240.	411.	439.
130	149.	385.	435.	194.	220.	178.	178.	421.	402.
140	0.	133.	471.	0.	169.	0.	120.	735.	676.
150	0.	0.	416.	312.	539.	0.	175.	1167.	210.
160	0.	0.	0.	0.	927.	0.	206.	492.	0.
170	0.	0.	0.	0.	0.	223.	203.	0.	0.
180	0.	0.	0.	0.	0.	0.	0.	0.	0.

VA AND SCA ARE IN DEGREES. CLEAR

TABLE 53

IR MEAN RADIANCE AS A FUNCTION OF SCATTERING ANGLE

FILTER 1 INSOL ANGLE 60.0 DEG.

VA / SCA	0	10	20	30	40	50	60	70	80
0	0.	0.	0.	0.	0.	0.	0.	0.	0.
10	0.	0.	0.	0.	0.	0.	0.	0.	0.
20	0.	0.	0.	0.	0.	0.	0.	0.	0.
30	0.	0.	0.	0.	0.	0.	0.	0.	0.
40	0.	0.	0.	0.	0.	0.	0.	0.	0.28
50	0.	0.	0.	0.	0.	0.	0.	0.37	0.25
60	0.	0.	0.	0.	0.	0.	0.	0.31	0.23
70	0.	0.	0.	0.	0.	0.36	0.80	0.29	0.20
80	0.	0.	0.	0.	0.	1.35	0.91	0.22	0.15
90	0.	0.	0.	0.47	0.79	0.96	0.56	0.27	0.24
100	0.	0.	0.49	1.22	1.04	0.48	0.53	0.35	0.19
110	0.	0.44	0.91	0.97	0.42	0.43	0.51	0.31	0.27
120	0.68	1.38	0.76	0.54	0.42	0.	0.50	0.27	0.25
130	4.56	1.26	0.56	0.49	0.48	0.47	0.45	0.27	0.27
140	0.	2.67	1.54	0.	0.43	0.	0.44	0.34	0.33
150	0.	0.	1.00	2.29	0.85	0.	1.15	0.35	0.29
160	0.	0.	0.	0.	0.59	0.	1.69	0.52	0.
170	0.	0.	0.	0.	0.	0.85	0.79	0.	0.
180	0.	0.	0.	0.	0.	0.	0.	0.	0.

RADIANCE VALUES ARE IN MICROWATTS. CLEAR VA AND SCA ARE IN DEGREES.

TABLE 54

RMS FLUCATUATION AS A FUNCTION OF SCATTERING ANGLE

FILTER 1 INSOL ANGLE 60.0 DEG.

VA / SCA	0	10	20	30	40	50	60	70	80
0	0.	0.	0.	0.	0.	0.	0.	0.	0.
10	0.	0.	0.	0.	0.	0.	0.	0.	0.
20	0.	0.	0.	0.	0.	0.	0.	0.	0.
30	0.	0.	0.	0.	0.	0.	0.	0.	0.
40	0.	0.	0.	0.	0.	0.	0.	0.	0.25
50	0.	0.	0.	0.	0.	0.	0.	0.37	0.25
60	0.	0.	0.	0.	0.	0.	0.	0.34	0.33
70	0.	0.	0.	0.	0.	0.39	1.05	0.41	0.23
80	0.	0.	0.	0.	0.	2.29	1.05	0.30	0.13
90	0.	0.	0.	0.87	1.38	1.82	0.11	0.26	0.31
100	0.	0.	0.40	1.86	2.02	0.23	0.12	0.29	0.20
110	0.	0.44	1.77	1.82	0.22	0.23	0.14	0.25	0.32
120	0.80	2.41	1.47	0.16	0.23	0.	0.15	0.33	0.23
130	3.97	2.55	0.15	0.20	0.16	0.18	0.19	0.22	0.20
140	0.	3.31	2.74	0.	0.18	0.	0.07	0.73	0.19
150	0.	0.	1.51	3.46	1.98	0.	1.72	0.81	0.34
160	0.	0.	0.	0.	1.27	0.	2.26	0.81	0.
170	0.	0.	0.	0.	0.	1.49	1.44	0.	0.
180	0.	0.	0.	0.	0.	0.	0.	0.	0.

RADIANCE VALUES ARE IN MICROWATTS. CLEAR VA AND SCA ARE IN DEGREES.

TABLE 55

NUMBER OF OBSERVATIONS AS A FUNCTION OF SUN AZIMUTH

FILTER 1 INSOL ANGLE 70.0 DEG.

VA / SA	0	10	20	30	40	50	60	70	80
0	0.	0.	225.	435.	210.	0.	435.	120.	210.
10	105.	255.	645.	1200.	495.	210.	645.	328.	434.
20	0.	150.	600.	405.	420.	165.	825.	307.	495.
30	0.	195.	360.	315.	360.	0.	375.	165.	330.
40	0.	405.	420.	255.	315.	0.	390.	105.	435.
50	0.	405.	450.	255.	120.	0.	420.	135.	390.
60	0.	555.	435.	240.	120.	0.	435.	135.	435.
70	0.	735.	330.	225.	135.	150.	390.	210.	2655.
80	0.	915.	270.	148.	255.	120.	480.	150.	840.
90	0.	165.	239.	240.	210.	135.	330.	210.	720.
100	0.	0.	0.	838.	180.	0.	480	195.	735.
110	0.	0.	135.	1575.	225.	104.	525.	105.	570.
120	0.	0.	0.	615.	315.	0.	585	150.	555.
130	0.	150.	165.	210.	255.	165.	600.	225.	750.
140	0.	105.	105.	165.	210.	135.	705.	315.	750.
150	120.	165.	225.	195.	225.	120.	735.	180.	705.
160	0.	0.	0.	0.	195.	0.	1395.	225.	735.
170	105.	195.	195.	210.	285.	135.	1215.	270.	630.
180	0.	105.	150.	105.	210.	105.	630.	119.	403.

VA AND SA ARE IN DEGREES CLEAR

TABLE 56

IR MEAN RADIANCE AS A FUNCTION OF SUN AZIMUTH

FILTER 1 INSOL ANGLE 70.0 DEG.

VA / SA	0	10	20	30	40	50	60	70	80
0	0.	0.	0.62	0.11	0.49	0.	0.48	0.91	0.36
10	1.12	0.86	0.63	0.18	0.56	0.49	0.38	0.68	0.55
20	0.	0.96	0.61	0.29	0.52	0.51	0.52	1.12	0.66
30	0.	0.55	0.71	0.19	0.53	0.	0.40	0.44	0.43
40	0.	0.69	0.68	0.22	0.52	0.	0.51	0.40	0.30
50	0.	0.67	0.73	0.14	0.43	0.	0.50	0.52	0.55
60	0.	0.75	0.68	0.15	0.24	0.	0.47	0.51	0.25
70	0.	0.85	0.83	0.24	0.56	0.46	0.50	0.47	0.24
80	0.	0.92	0.60	0.28	0.52	0.32	0.50	0.53	0.20
90	0.	0.90	0.59	0.36	0.53	0.29	0.41	0.48	0.20
100	0.	0.	0.	0.69	0.68	0.	0.55	0.57	0.20
110	0.	0.	0.34	0.78	0.44	0.39	0.45	0.54	0.21
120	0.	0.	0.	0.80	0.74	0.	0.35	0.58	0.22
130	0.	0.23	0.24	0.28	0.49	0.30	0.28	0.42	0.25
140	0.	0.31	0.33	0.53	0.50	0.27	0.31	0.33	0.24
150	1.39	0.75	0.39	0.41	0.56	0.30	0.22	0.29	0.23
160	0.	0.	0.	0.	0.59	0.	0.17	0.37	0.23
170	1.50	0.73	0.33	0.35	0.68	0.26	0.22	0.44	0.28
180	0.	0.88	0.44	0.43	0.61	0.35	0.26	0.51	0.21

RADIANCE VALUES ARE IN MICROWATTS. CLEAR VA AND SA ARE IN DEGREES.

TABLE 57

IR RMS FLUCTUATION AS A FUNCTION OF SUN AZIMUTH

FILTER 1 INSOL ANGLE 70.0 DEG.

VA / SA	0	10	20	30	40	50	60	70	80
0	0.	0.	0.24	0.08	0.18	0.	0.30	1.24	0.30
10	1.03	0.51	0.23	0.19	0.32	0.29	0.27	1.10	0.74
20	0.	1.19	0.23	0.23	0.18	0.34	0.33	1.73	0.88
30	0.	0.31	0.21	0.15	0.21	0.	0.22	0.19	0.66
40	0.	0.23	0.24	0.18	0.22	0.	0.21	0.20	0.23
50	0.	0.28	0.24	0.09	0.24	0.	0.26	0.36	0.91
60	0.	0.26	0.28	0.11	0.12	0.	0.26	0.31	0.19
70	0.	0.20	0.15	0.27	0.14	0.17	0.26	0.25	0.14
80	0.	0.45	0.31	0.24	0.24	0.18	0.29	0.20	0.17
90	0.	1.13	0.33	0.25	0.24	0.15	0.26	0.24	0.14
100	0.	0.	0.	0.21	0.16	0.	0.31	0.28	0.19
110	0.	0.	0.15	0.21	0.23	0.17	0.29	0.19	0.21
120	0.	0.	0.	0.27	0.16	0.	0.29	0.19	0.21
130	0.	0.10	0.11	0.13	0.33	0.16	0.27	0.19	0.23
140	0.	0.18	0.18	0.41	0.38	0.15	0.29	0.18	0.25
150	1.83	0.91	0.27	0.26	0.40	0.14	0.22	0.15	0.24
160	0.	0.	0.	0.	0.47	0.	0.16	0.24	0.22
170	1.16	0.94	0.26	0.27	0.44	0.13	0.21	0.25	0.25
180	0.	0.65	0.23	0.13	0.39	0.15	0.22	0.26	0.25

RADIANCE VALUES ARE IN MICROWATTS. CLEAR VA AND SA ARE IN DEGREES.

TABLE 58

NUMBER OF OBSERVATIONS AS A FUNCTION OF SCATTERING ANGLE

FILTER 1 INSOL ANGLE 70.0 DEG.

VA SCA	0	10	20	30	40	50	60	70	80
0	0.	0.	0.	0.	0.	0.	0.	0.	0.
10	0.	0.	0.	0.	0.	0.	0.	0.	0.
20	0.	0.	0.	0.	0.	0.	0.	0.	0.
30	0.	0.	0.	0.	0.	0.	0.	0.	149.
40	0.	0.	0.	0.	0.	0.	0.	111.	1020.
50	0.	0.	0.	0.	0.	0.	225.	539.	615.
60	0.	0.	0.	0.	0.	135.	1605.	300.	525.
70	0.	0.	0.	0.	165.	360.	930.	270.	570.
80	0.	0.	0.	195.	960.	135.	765.	240.	2955.
90	0.	0.	180.	2190.	900.	270.	540.	180.	795.
100	0.	255.	2010.	825.	255.	105.	510.	240.	915.
110	360.	3480.	1635.	508.	405.	135.	585.	195.	645.
120	690.	600.	299.	1483.	300.	119.	660.	165.	645.
130	0.	525.	510.	1695.	450.	0.	660.	195.	855.
140	0.	0.	420.	540.	420.	195.	810.	315.	930.
150	0.	0.	0.	285.	645.	180.	780.	270.	1050.
160	0.	0.	0.	0.	240.	165.	1515.	240.	883.
170	0.	0.	0.	0.	0.	180.	1590.	344.	225.
180	0.	0.	0.	0.	0.	0.	420.	0.	0.

VA AND SCA ARE IN DEGREES. CLEAR

TABLE 59

IR MEAN RADIANCE AS A FUNCTION OF SCATTERING ANGLE

FILTER 1 INSOL ANGLE 70.0 DEG.

VA / SCA	0	10	20	30	40	50	60	70	80
0	0.	0.	0.	0.	0.	0.	0.	0.	0.
10	0.	0.	0.	0.	0.	0.	0.	0.	0.
20	0.	0.	0.	0.	0.	0.	0.	0.	0.
30	0.	0.	0.	0.	0.	0.	0.	0.	0.72
40	0.	0.	0.	0.	0.	0.	0.	2.00	0.58
50	0.	0.	0.	0.	0.	0.	0.79	0.76	0.30
60	0.	0.	0.	0.	0.	0.69	0.43	0.42	0.48
70	0.	0.	0.	0.	0.63	0.33	0.43	0.52	0.27
80	0.	0.	0.	0.61	0.49	0.24	0.50	0.45	0.22
90	0.	0.	0.61	0.16	0.52	0.37	0.50	0.48	0.21
100	0.	0.99	0.64	0.19	0.46	0.30	0.45	0.50	0.21
110	1.82	0.80	0.72	0.27	0.53	0.29	0.48	0.55	0.20
120	0.49	0.68	0.42	0.69	0.59	0.41	0.49	0.59	0.21
130	0.	0.29	0.40	0.78	0.66	0.	0.31	0.51	0.23
140	0.	0.	0.26	0.42	0.49	0.27	0.30	0.30	0.27
150	0.	0.	0.	0.31	0.74	0.27	0.27	0.35	0.22
160	0.	0.	0.	0.	0.27	0.30	0.17	0.31	0.26
170	0.	0.	0.	0.	0.	0.26	0.23	0.48	0.15
180	0.	0.	0.	0.	0.	0.	0.23	0.	0.

RADIANCE VALUES ARE IN MICROWATTS. CLEAR VA AND SCA ARE IN DEGREES.

TABLE 60

RMS FLUCTUATION AS A FUNCTION OF SCATTERING ANGLE

FILTER 1 INSOL ANGLE 70.0 DEG.

VA / SCA	0	10	20	30	40	50	60	70	80
0	0.	0.	0.	0.	0.	0.	0.	0.	0.
10	0.	0.	0.	0.	0.	0.	0.	0.	0.
20	0.	0.	0.	0.	0.	0.	0.	0.	0.
30	0.	0.	0.	0.	0.	0.	0.	0.	1.14
40	0.	0.	0.	0.	0.	0.	0.	1.97	0.74
50	0.	0.	0.	0.	0.	0.	0.32	1.31	0.23
60	0.	0.	0.	0.	0.	0.25	0.28	0.20	0.81
70	0.	0.	0.	0.	0.25	0.26	0.23	0.33	0.23
80	0.	0.	0.	0.18	0.26	0.12	0.26	0.25	0.12
90	0.	0.	0.17	0.14	0.21	0.18	0.27	0.21	0.19
100	0.	0.45	0.24	0.18	0.22	0.18	0.29	0.22	0.17
110	1.75	0.47	0.26	0.24	0.23	0.15	0.30	0.30	0.20
120	0.74	0.77	0.26	0.23	0.21	0.18	0.31	0.20	0.22
130	0.	0.29	0.26	0.25	0.24	0.	0.28	0.17	0.23
140	0.	0.	0.14	0.30	0.36	0.15	0.27	0.17	0.26
150	0.	0.	0.	0.24	0.44	0.13	0.27	0.18	0.22
160	0.	0.	0.	0.	0.15	0.14	0.16	0.19	0.26
170	0.	0.	0.	0.	0.	0.13	0.22	0.26	0.20
180	0.	0.	0.	0.	0.	0.	0.20	0.	0.

RADIANCE VALUES ARE IN MICROWATTS. CLEAR VA AND SCA ARE IN DEGREES.

TABLE 61

NUMBER OF OBSERVATIONS AS A FUNCTION OF SUN AZIMUTH

FILTER 2 INSOL ANGLE 30.0 DEG.

VA / SA	0	10	20	30	40	50	60	70	80
0	0.	0.	0.	510.	0.	285.	630.	690.	720.
10	0.	0.	0.	2203.	0.	839.	1080.	1470.	1170.
20	0.	0.	0.	1343.	0.	809.	434.	1950.	1797.
30	0.	0.	0.	1650.	0.	1035.	285.	750.	884.
40	0.	0.	0.	2203.	0.	883.	195.	1080.	1254.
50	0.	0.	0.	2819.	0.	1080.	314.	1545.	3150.
60	0.	0.	0.	3000.	0.	1737.	540.	1530.	1184.
70	0.	0.	0.	869.	0.	1095.	885.	645.	825.
80	0.	0.	0.	705.	0.	2053.	165.	704.	1725.
90	0.	0.	0.	540.	0.	945.	239.	750.	1290.
100	0.	0.	0.	479.	0.	705.	165.	1303.	990.
110	0.	0.	0.	553.	0.	660.	120.	1275.	885.
120	0.	0.	0.	524.	0.	630.	435.	2670.	1063.
130	0.	0.	0.	510.	0.	945.	433.	779.	705.
140	0.	0.	0.	419.	0.	2430.	506.	720.	540.
150	0.	0.	0.	255.	0.	855.	465.	599.	600.
160	0.	0.	0.	105.	0.	840.	445.	464.	510.
170	0.	0.	0.	0.	0.	825.	268.	210.	510.
180	0.	0.	0.	0.	0.	345.	120.	0.	390.

VA AND SA ARE IN DEGREES. CLOUDS

TABLE 62

IR MEAN RADIANCE AS A FUNCTION OF SUN AZIMUTH

FILTER 2 INSOL ANGLE 30.0 DEG.

VA / SA	0	10	20	30	40	50	60	70	80
0	0.	0.	0.	0.32	0.	0.21	0.22	0.26	0.21
10	0.	0.	0.	0.34	0.	0.21	0.21	0.25	0.22
20	0.	0.	0.	0.29	0.	0.20	0.22	0.23	0.28
30	0.	0.	0.	0.27	0.	0.28	0.21	0.26	0.23
40	0.	0.	0.	0.32	0.	0.27	0.24	0.25	0.22
50	0.	0.	0.	0.34	0.	0.25	0.23	0.25	0.20
60	0.	0.	0.	0.39	0.	0.28	0.27	0.24	0.21
70	0.	0.	0.	0.25	0.	0.23	0.26	0.22	0.20
80	0.	0.	0.	0.22	0.	0.28	0.22	0.21	0.18
90	0.	0.	0.	0.22	0.	0.24	0.22	0.18	0.20
100	0.	0.	0.	0.21	0.	0.23	0.21	0.18	0.20
110	0.	0.	0.	0.22	0.	0.24	0.22	0.19	0.19
120	0.	0.	0.	0.23	0.	0.21	0.26	0.20	0.18
130	0.	0.	0.	0.24	0.	0.21	0.28	0.20	0.18
140	0.	0.	0.	0.23	0.	0.31	0.25	0.23	0.19
150	0.	0.	0.	0.30	0.	0.25	0.25	0.20	0.19
160	0.	0.	0.	0.40	0.	0.22	0.25	0.22	0.21
170	0.	0.	0.	0.	0.	0.20	0.26	0.24	0.21
180	0.	0.	0.	0.	0.	0.20	0.21	0.	0.18

RADIANCE VALUES ARE IN MICROWATTS. CLOUDS VA AND SA ARE IN DEGREES.

TABLE 63

IR RMS FLUCTUATION AS A FUNCTION OF SUN AZIMUTH

FILTER 2 INSOL ANGLE 30.0 DEG.

VA / SA	0	10	20	30	40	50	60	70	80
0	0.	0.	0.	0.23	0.	0.17	0.16	0.18	0.16
10	0.	0.	0.	0.22	0.	0.17	0.16	0.19	0.17
20	0.	0.	0.	0.22	0.	0.15	0.18	0.17	0.20
30	0.	0.	0.	0.21	0.	0.21	0.16	0.19	0.17
40	0.	0.	0.	0.23	0.	0.19	0.18	0.19	0.17
50	0.	0.	0.	0.24	0.	0.19	0.19	0.18	0.16
60	0.	0.	0.	0.24	0.	0.20	0.21	0.18	0.17
70	0.	0.	0.	0.21	0.	0.18	0.19	0.18	0.15
80	0.	0.	0.	0.18	0.	0.20	0.19	0.17	0.14
90	0.	0.	0.	0.20	0.	0.18	0.19	0.14	0.15
100	0.	0.	0.	0.18	0.	0.18	0.17	0.14	0.15
110	0.	0.	0.	0.17	0.	0.19	0.17	0.15	0.16
120	0.	0.	0.	0.18	0.	0.17	0.22	0.16	0.15
130	0.	0.	0.	0.19	0.	0.17	0.22	0.15	0.15
140	0.	0.	0.	0.18	0.	0.20	0.20	0.17	0.15
150	0.	0.	0.	0.26	0.	0.20	0.20	0.17	0.15
160	0.	0.	0.	0.27	0.	0.17	0.20	0.18	0.15
170	0.	0.	0.	0.	0.	0.16	0.23	0.18	0.17
180	0.	0.	0.	0.	0.	0.15	0.19	0.	0.16

RADIANCE VALUES ARE IN MICROWATTS. CLOUDS VA AND SA ARE IN DEGREES.

TABLE 64

NUMBER OF OBSERVATIONS AS A FUNCTION OF SCATTERING ANGLE

FILTER 2 INSOL ANGLE 30.0 DEG.

VA / SCA	0	10	20	30	40	50	60	70	80
0	0.	0.	0.	0.	0.	0.	0.	0.	0.
10	0.	0.	0.	0.	0.	0.	0.	0.	0.
20	0.	0.	0.	0.	0.	0.	0.	0.	0.
30	0.	0.	0.	0.	0.	0.	0.	0.	0.
40	0.	0.	0.	0.	0.	0.	0.	0.	0.
50	0.	0.	0.	0.	0.	0.	0.	0.	0.
60	0.	0.	0.	0.	0.	0.	0.	0.	0.
70	0.	0.	0.	0.	0.	0.	0.	0.	495.
80	0.	0.	0.	0.	0.	0.	0.	5265.	5525.
90	0.	0.	0.	0.	0.	0.	135.	4080.	4994.
100	0.	0.	0.	0.	0.	1440.	2938.	1560.	3210.
110	0.	0.	0.	0.	149.	4941.	1499.	2997.	2263.
120	0.	0.	0.	2120.	210.	3810.	435.	3764.	2175.
130	0.	0.	135.	11787.	105.	1770.	689.	1438.	1530.
140	0.	135.	150.	2189.	0.	1590.	1265.	0.	0.
150	135.	225.	134.	1332.	0.	4590.	763.	0.	0.
160	135.	195.	105.	989.	120.	855.	0.	0.	0.
170	0.	105.	120.	315.	0.	0.	0.	0.	0.
180	0.	0.	0.	0.	0.	0.	0.	0.	0.

VA AND SCA ARE IN DEGREES. CLOUDS

TABLE 65

IR MEAN RADIANCE AS A FUNCTION OF SCATTERING ANGLE

FILTER 2 INSOL ANGLE 30.0 DEG.

VA / SCA	0	10	20	30	40	50	60	70	80
0	0.	0.	0.	0.	0.	0.	0.	0.	0.
10	0.	0.	0.	0.	0.	0.	0.	0.	0.
20	0.	0.	0.	0.	0.	0.	0.	0.	0.
30	0.	0.	0.	0.	0.	0.	0.	0.	0.
40	0.	0.	0.	0.	0.	0.	0.	0.	0.
50	0.	0.	0.	0.	0.	0.	0.	0.	0.
60	0.	0.	0.	0.	0.	0.	0.	0.	0.
70	0.	0.	0.	0.	0.	0.	0.	0.	0.28
80	0.	0.	0.	0.	0.	0.	0.	0.25	0.24
90	0.	0.	0.	0.	0.	0.	0.28	0.24	0.20
100	0.	0.	0.	0.	0.	0.29	0.22	0.20	0.19
110	0.	0.	0.	0.	0.26	0.25	0.26	0.19	0.19
120	0.	0.	0.	0.34	0.28	0.26	0.20	0.21	0.18
130	0.	0.	0.33	0.33	0.43	0.23	0.26	0.21	0.20
140	0.	0.29	0.28	0.23	0.	0.21	0.26	0.	0.
150	0.34	0.32	0.29	0.23	0.	0.27	0.25	0.	0.
160	0.24	0.33	0.27	0.24	0.30	0.21	0.	0.	0.
170	0.	0.30	0.34	0.35	0.	0.	0.	0.	0.
180	0.	0.	0.	0.	0.	0.	0.	0.	0.

RADIANCE VALUES ARE IN MICROWATTS. CLOUDS VA AND SCA ARE IN DEGREES.

TABLE 66

RMS FLUCTUATION AS A FUNCTION OF SCATTERING ANGLE

FILTER 2 INSOL ANGLE 30.0 DEG.

VA / SCA	0	10	20	30	40	50	60	70	80
0	0.	0.	0.	0.	0.	0.	0.	0.	0.
10	0.	0.	0.	0.	0.	0.	0.	0.	0.
20	0.	0.	0.	0.	0.	0.	0.	0.	0.
30	0.	0.	0.	0.	0.	0.	0.	0.	0.
40	0.	0.	0.	0.	0.	0.	0.	0.	0.
50	0.	0.	0.	0.	0.	0.	0.	0.	0.
60	0.	0.	0.	0.	0.	0.	0.	0.	0.
70	0.	0.	0.	0.	0.	0.	0.	0.	0.18
80	0.	0.	0.	0.	0.	0.	0.	0.18	0.18
90	0.	0.	0.	0.	0.	0.	0.22	0.18	0.16
100	0.	0.	0.	0.	0.	0.20	0.17	0.15	0.15
110	0.	0.	0.	0.	0.19	0.19	0.19	0.15	0.15
120	0.	0.	0.	0.23	0.24	0.19	0.17	0.16	0.15
130	0.	0.	0.24	0.23	0.29	0.18	0.21	0.17	0.16
140	0.	0.18	0.20	0.19	0.	0.16	0.21	0.	0.
150	0.26	0.24	0.21	0.17	0.	0.20	0.21	0.	0.
160	0.17	0.26	0.19	0.20	0.26	0.16	0.	0.	0.
170	0.	0.22	0.26	0.24	0.	0.	0.	0.	0.
180	0.	0.	0.	0.	0.	0.	0.	0.	0.

RADIANCE VALUES ARE IN MICROWATTS. CLOUDS VA AND SCA ARE IN DEGREES.

TABLE 67

NUMBER OF OBSERVATIONS AS A FUNCTION OF SUN AZIMUTH

FILTER 2 INSOL ANGLE 40.0 DEG.

VA / SA	0	10	20	30	40	50	60	70	80
0	0.	225.	270.	465.	255.	390.	0.	270.	315.
10	135.	330.	240.	600.	195.	1035.	285.	495.	645.
20	135.	270.	300.	493.	375.	780.	285.	465.	690.
30	165.	315.	270.	510.	300.	705.	525.	540.	690.
40	0.	270.	195.	450.	255.	600.	555.	750.	734.
50	105.	195.	225.	330.	270.	495.	420.	1035.	645.
60	105.	255.	300.	465.	330.	705.	615.	1125.	825.
70	225.	630.	540.	825.	510.	945.	630.	1080.	718.
80	315.	765.	600.	975.	645.	1050.	795.	1140.	1063.
90	315.	480.	645.	855.	735.	1095.	705.	855.	929.
100	345.	705.	660.	795.	675.	855.	645.	780.	660.
110	270.	599.	645.	810.	600.	705.	615.	870.	658.
120	135.	270.	255.	570.	270.	435.	450.	645.	538.
130	0.	240.	165.	870.	195.	405.	420.	585.	509.
140	135.	165.	240.	660.	300.	480.	388.	465.	390.
150	180.	285.	225.	750.	150.	735.	390.	555.	435.
160	195.	360.	420.	930.	433.	585.	600.	660.	613.
170	120.	345.	180.	675.	255.	420.	420.	660.	600.
180	165.	180.	285.	435.	165.	225.	240.	240.	240.

VA AND SA ARE IN DEGREES. CLOUDS

TABLE 68

IR MEAN RADIANCE AS A FUNCTION OF SUN AZIMUTH

FILTER 2 INSOL ANGLE 40.0 DEG.

VA / SA	0	10	20	30	40	50	60	70	80
0	0.	0.17	0.19	0.17	0.21	0.22	0.	0.25	0.22
10	0.28	0.41	0.22	0.17	0.23	0.17	0.30	0.19	0.15
20	0.23	0.31	0.14	0.15	0.20	0.17	0.31	0.22	0.18
30	0.25	0.25	0.25	0.15	0.17	0.19	0.21	0.21	0.14
40	0.	0.23	0.20	0.16	0.21	0.17	0.21	0.16	0.17
50	0.21	0.25	0.26	0.15	0.20	0.17	0.17	0.14	0.21
60	0.18	0.28	0.20	0.15	0.19	0.16	0.17	0.15	0.18
70	0.15	0.29	0.23	0.16	0.18	0.16	0.16	0.16	0.15
80	0.16	0.20	0.18	0.13	0.14	0.14	0.15	0.14	0.12
90	0.17	0.17	0.13	0.12	0.13	0.13	0.13	0.12	0.12
100	0.15	0.16	0.13	0.13	0.13	0.12	0.13	0.13	0.12
110	0.17	0.16	0.16	0.13	0.14	0.13	0.14	0.12	0.12
120	0.15	0.21	0.15	0.14	0.12	0.12	0.11	0.11	0.12
130	0.	0.15	0.11	0.13	0.12	0.12	0.12	0.10	0.10
140	0.17	0.17	0.14	0.14	0.15	0.12	0.11	0.10	0.11
150	0.15	0.16	0.11	0.13	0.13	0.11	0.11	0.10	0.12
160	0.19	0.17	0.13	0.11	0.14	0.10	0.11	0.10	0.11
170	0.23	0.19	0.14	0.12	0.12	0.12	0.12	0.10	0.09
180	0.18	0.25	0.13	0.11	0.10	0.12	0.10	0.10	0.09

RADIANCE VALUES ARE IN MICROWATTS CLOUDS VA AND SA ARE IN DEGREES.

TABLE 69

IR RMS FLUCTUATION AS A FUNCTION OF SUN AZIMUTH

FILTER 2 INSOL ANGLE 40.0 DEG.

VA / SA	0	10	20	30	40	50	60	70	80
0	0.	0.17	0.16	0.12	0.12	0.13	0.	0.14	0.18
10	0.20	0.38	0.21	0.12	0.12	0.12	0.12	0.13	0.14
20	0.27	0.42	0.10	0.11	0.11	0.13	0.13	0.14	0.14
30	0.26	0.41	0.32	0.10	0.08	0.12	0.13	0.14	0.13
40	0.	0.32	0.24	0.11	0.12	0.12	0.13	0.14	0.18
50	0.25	0.35	0.32	0.11	0.11	0.12	0.15	0.15	0.20
60	0.16	0.38	0.24	0.11	0.11	0.11	0.11	0.13	0.16
70	0.11	0.28	0.20	0.11	0.11	0.10	0.10	0.12	0.15
80	0.17	0.23	0.14	0.09	0.09	0.09	0.09	0.09	0.11
90	0.18	0.20	0.09	0.09	0.09	0.09	0.10	0.10	0.12
100	0.09	0.18	0.09	0.09	0.09	0.09	0.10	0.10	0.10
110	0.12	0.15	0.13	0.09	0.11	0.09	0.10	0.09	0.10
120	0.12	0.23	0.16	0.14	0.09	0.11	0.08	0.09	0.10
130	0.	0.10	0.07	0.10	0.08	0.09	0.10	0.08	0.09
140	0.11	0.12	0.09	0.11	0.10	0.09	0.09	0.08	0.09
150	0.10	0.10	0.08	0.11	0.10	0.09	0.09	0.09	0.15
160	0.11	0.09	0.08	0.09	0.15	0.08	0.08	0.08	0.11
170	0,26	0.11	0.09	0.09	0.08	0.08	0.08	0.07	0.08
180	0.09	0.09	0.07	0.08	0.06	0.09	0.07	0.08	0.08

RADIANCE VALUES ARE IN MICROWATTS. CLOUDS VA AND SA ARE IN DEGREES.

TABLE 70

NUMBER OF OBSERVATIONS AS A FUNCTION OF SCATTERING ANGLE

FILTER 2 INSOL ANGLE 40.0 DEG.

VA SCA	0	10	20	30	40	50	60	70	80
0	0.	0.	0.	0.	0.	0.	0.	0.	0.
10	0.	0.	0.	0.	0.	0.	0.	0.	0.
20	0.	0.	0.	0.	0.	0.	0.	0.	0.
30	0.	0.	0.	0.	0.	0.	0.	0.	0.
40	0.	0.	0.	0.	0.	0.	0.	0.	0.
50	0.	0.	0.	0.	0.	0.	0.	0.	0.
60	0.	0.	0.	0.	0.	0.	0.	0.	645.
70	0.	0.	0.	0.	0.	0.	0.	1650.	2114.
80	0.	0.	0.	0.	0.	0.	720.	2430.	1858.
90	0.	0.	0.	0.	0.	2025.	1485.	1635.	1573.
100	0.	0.	0.	0.	990.	2250.	1275.	1740.	1349.
110	0.	0.	0.	1693.	915.	1920.	1350.	1290.	1076.
120	0.	0.	1170.	1950.	1440.	2025.	1050.	1275.	989.
130	0.	1410.	1680.	2370.	1200.	1155.	780.	915.	1153.
140	3000.	3540.	1815.	1635.	825.	720.	705.	1560.	1140.
150	195.	1784.	855.	1380.	390.	810.	868.	720.	0.
160	0.	120.	1080.	1620.	405.	1155.	840.	0.	0.
170	0.	0.	0.	1800.	583.	570.	0.	0.	0.
180	0.	0.	0.	0.	165.	0.	0.	0.	0.

VA AND SCA ARE IN DEGREES. CLOUDS

TABLE 71

IR MEAN RADIANCE AS A FUNCTION OF SCATTERING ANGLE

FILTER 2 INSOL ANGLE 40.0 DEG.

VA / SCA	0	10	20	30	40	50	60	70	80
0	0.	0.	0.	0.	0.	0.	0.	0.	0.
10	0.	0.	0.	0.	0.	0.	0.	0.	0.
20	0.	0.	0.	0.	0.	0.	0.	0.	0.
30	0.	0.	0.	0.	0.	0.	0.	0.	0.
40	0.	0.	0.	0.	0.	0.	0.	0.	0.
50	0.	0.	0.	0.	0.	0.	0.	0.	0.
60	0.	0.	0.	0.	0.	0.	0.	0.	0.14
70	0.	0.	0.	0.	0.	0.	0.	0.18	0.18
80	0.	0.	0.	0.	0.	0.	0.29	0.16	0.18
90	0.	0.	0.	0.	0.	0.19	0.20	0.17	0.12
100	0.	0.	0.	0.	0.20	0.16	0.16	0.14	0.13
110	0.	0.	0.	0.16	0.19	0.15	0.14	0.13	0.11
120	0.	0.	0.16	0.15	0.16	0.13	0.14	0.12	0.11
130	0.	0.27	0.22	0.13	0.13	0.13	0.12	0.10	0.12
140	0.18	0.21	0.15	0.13	0.14	0.12	0.11	0.10	0.10
150	0.19	0.19	0.15	0.13	0.13	0.12	0.12	0.10	0.
160	0.	0.16	0.13	0.13	0.13	0.11	0.11	0.	0.
170	0.	0.	0.	0.12	0.13	0.11	0.	0.	0.
180	0.	0.	0.	0.	0.10	0.	0.	0.	0.

RADIANCE VALUES ARE IN MICROWATTS. CLOUDS VA AND SCA ARE IN DEGREES.

TABLE 72

RMS FLUCTUATION AS A FUNCTION OF SCATTERING ANGLE

FILTER 2 INSOL ANGLE 40.0 DEG.

VA / SCA	0	10	20	30	40	50	60	70	80
0	0.	0.	0.	0.	0.	0.	0.	0.	0.
10	0.	0.	0.	0.	0.	0.	0.	0.	0.
20	0.	0.	0.	0.	0.	0.	0.	0.	0.
30	0.	0.	0.	0.	0.	0.	0.	0.	0.
40	0.	0.	0.	0.	0.	0.	0.	0.	0.
50	0.	0.	0.	0.	0.	0.	0.	0.	0.
60	0.	0.	0.	0.	0.	0.	0.	0.	0.18
70	0.	0.	0.	0.	0.	0.	0.	0.12	0.16
80	0.	0.	0.	0.	0.	0.	0.12	0.14	0.17
90	0.	0.	0.	0.	0.	0.13	0.14	0.15	0.11
100	0.	0.	0.	0.	0.11	0.12	0.11	0.10	0.12
110	0.	0.	0.	0.11	0.11	0.10	0.10	0.10	0.09
120	0.	0.	0.14	0.11	0.10	0.09	0.11	0.09	0.10
130	0.	0.37	0.24	0.10	0.09	0.09	0.09	0.08	0.13
140	0.17	0.25	0.12	0.10	0.11	0.10	0.09	0.08	0.08
150	0.12	0.13	0.13	0.11	0.09	0.10	0.09	0.07	0.
160	0.	0.11	0.08	0.10	0.10	0.08	0.08	0.	0.
170	0.	0.	0.	0.09	0.13	0.08	0.	0.	0.
180	0.	0.	0.	0.	0.06	0.	0.	0.	0.

RADIANCE VALUES ARE IN MICROWATTS. CLOUDS VA AND SCA ARE IN DEGREES.

TABLE 73

NUMBER OF OBSERVATIONS AS A FUNCTION OF SUN AZIMUTH

FILTER 2 INSOL ANGLE 50.0 DEG.

VA / SA	0	10	20	30	40	50	60	70	80
0	0.	0.	0.	0.	735.	0.	285.	495.	959.
10	105.	120.	133.	150.	1380.	0.	330.	1049.	2111.
20	105.	208.	165.	150.	1469.	255.	630.	1080.	2291.
30	180.	375.	389.	300.	1590.	270.	390.	1035.	2144.
40	120.	300.	285.	345.	1437.	375.	779.	1200.	2308.
50	180.	390.	375.	345.	1468.	300.	660.	900.	2204.
60	105.	420.	285.	405.	1470.	375.	614.	915.	1560.
70	105.	390.	270.	255.	1094.	195.	435.	838.	885.
80	105.	255.	330.	356.	1305.	405.	569.	989.	853.
90	165.	360.	330.	359.	1079.	240.	299.	748.	375.
100	135.	180.	300.	225.	1230.	330.	360.	870.	735.
110	195.	240.	660.	345.	1740.	390.	285.	885.	705.
120	165.	330.	658.	389.	1545.	375.	345.	1185.	435.
130	180.	345.	810.	345.	1798.	225.	300.	1377.	225.
140	150.	345.	630.	330.	1633.	540.	420.	1829.	225.
150	225.	360.	794.	404.	1183.	749.	720.	2503.	270.
160	0.	240.	554.	195.	960.	405.	645.	2475.	225.
170	0.	0.	465.	0.	990.	405.	390.	2024.	0.
180	0.	0.	285.	0.	495.	150.	225.	930.	0.

VA AND SA ARE IN DEGREES. CLOUDS

TABLE 74

IR MEAN RADIANCE AS A FUNCTION OF SUN AZIMUTH

FILTER 2 INSOL ANGLE 50.0 DEG.

VA SA	0	10	20	30	40	50	60	70	80
0	0.	0.	0.	0.	0.17	0.	0.24	0.21	0.21
10	0.34	0.58	0.27	0.16	0.17	0.	0.23	0.26	0.18
20	0.31	0.25	0.22	0.17	0.18	0.25	0.26	0.27	0.20
30	0.29	0.24	0.21	0.16	0.18	0.23	0.22	0.20	0.19
40	0.16	0.24	0.14	0.16	0.18	0.17	0.23	0.25	0.23
50	0.60	0.94	0.28	0.15	0.17	0.18	0.22	0.23	0.21
60	0.73	0.35	0.20	0.17	0.17	0.20	0.22	0.21	0.20
70	0.54	0.61	0.24	0.21	0.18	0.20	0.19	0.19	0.18
80	0.55	0.47	0.26	0.18	0.17	0.17	0.18	0.20	0.18
90	0.62	0.58	0.28	0.22	0.18	0.17	0.19	0.19	0.17
100	0.70	0.82	0.31	0.15	0.18	0.15	0.18	0.17	0.17
110	0.63	0.67	0.22	0.17	0.17	0.17	0.16	0.17	0.18
120	0.61	0.85	0.21	0.18	0.17	0.16	0.16	0.17	0.15
130	0.37	0.37	0.17	0.16	0.17	0.18	0.17	0.18	0.13
140	0.32	0.34	0.19	0.18	0.17	0.17	0.17	0.18	0.15
150	0.30	0.36	0.19	0.15	0.16	0.16	0.16	0.17	0.15
160	0.	0.37	0.18	0.16	0.16	0.15	0.17	0.18	0.13
170	0.	0.	0.17	0.	0.16	0.19	0.16	0.18	0.
180	0.	0.	0.16	0.	0.15	0.17	0.17	0.18	0.

RADIANCE VALUES ARE IN MICROWATTS. CLOUDS VA AND SA ARE IN DEGREES.

TABLE 75

IR RMS FLUCTUATION AS A FUNCTION OF SUN AZIMUTH

FILTER 2 INSOL ANGLE 50.0 DEG.

VA / SA	0	10	20	30	40	50	60	70	80
0	0.	0.	0.	0.	0.13	0.	0.19	0.16	0.20
10	0.30	0.49	0.24	0.12	0.13	0.	0.20	0.22	0.14
20	0.24	0.28	0.15	0.15	0.14	0.17	0.18	0.23	0.18
30	0.31	0.35	0.24	0.12	0.13	0.14	0.18	0.16	0.14
40	0.12	0.22	0.11	0.11	0.14	0.13	0.17	0.18	0.18
50	0.46	0.78	0.30	0.13	0.13	0.13	0.16	0.16	0.17
60	0.51	0.38	0.16	0.13	0.13	0.13	0.15	0.16	0.15
70	0.62	0.58	0.19	0.17	0.14	0.14	0.14	0.17	0.14
80	0.57	0.59	0.25	0.15	0.14	0.13	0.14	0.16	0.15
90	0.50	0.54	0.28	0.21	0.14	0.13	0.14	0.13	0.12
100	0.47	0.73	0.36	0.11	0.14	0.11	0.15	0.14	0.13
110	0.51	0.72	0.21	0.14	0.13	0.12	0.11	0.12	0.18
120	0.47	0.75	0.21	0.16	0.13	0.12	0.11	0.13	0.12
130	0.36	0.48	0.14	0.12	0.15	0.14	0.13	0.15	0.10
140	0.31	0.42	0.18	0.14	0.14	0.13	0.13	0.14	0.12
150	0.27	0.42	0.16	0.13	0.13	0.12	0.13	0.13	0.11
160	0.	0.34	0.16	0.13	0.12	0.11	0.13	0.14	0.11
170	0.	0.	0.14	0.	0.12	0.14	0.12	0.13	0.
180	0.	0.	0.12	0.	0.12	0.14	0.14	0.14	0.

RADIANCE VALUES ARE IN MICROWATTS. CLOUDS VA AND SA ARE IN DEGREES.

TABLE 76

NUMBER OF OBSERVATIONS AS A FUNCTION OF SCATTERING ANGLE

FILTER 2 INSOL ANGLE 50.0 DEG.

VA / SCA	0	10	20	30	40	50	60	70	80
0	0.	0.	0.	0.	0.	0.	0.	0.	0.
10	0.	0.	0.	0.	0.	0.	0.	0.	0.
20	0.	0.	0.	0.	0.	0.	0.	0.	0.
30	0.	0.	0.	0.	0.	0.	0.	0.	0.
40	0.	0.	0.	0.	0.	0.	0.	0.	0.
50	0.	0.	0.	0.	0.	0.	0.	0.	5424.
60	0.	0.	0.	0.	0.	0.	0.	1334.	4479.
70	0.	0.	0.	0.	0.	0.	195.	3375.	3104.
80	0.	0.	0.	0.	0.	195.	2219.	1695.	1455.
90	0.	0.	0.	0.	1500.	945.	1155.	1377.	1033.
100	0.	0.	0.	360.	6386.	600.	928.	1303.	810.
110	0.	0.	508.	945.	2967.	585.	524.	1155.	945.
120	0.	703.	1139.	1015.	2265.	465.	495.	1305.	435.
130	1035.	1785.	1020.	630.	2579.	570.	480.	1917.	450.
140	1335.	2159.	2188.	824.	2610.	495.	465.	2907.	420.
150	0.	375.	2129.	779.	2531.	825.	735.	4964.	105.
160	0.	0.	779.	435.	1783.	824.	960.	1995.	0.
170	0.	0.	0.	0.	1950.	585.	525.	0.	0.
180	0.	0.	0.	0.	0.	0.	0.	0.	0.

VA AND SCA ARE IN DEGREES. CLOUDS

TABLE 77

IR MEAN RADIANCE AS A FUNCTION OF SCATTERING ANGLE

FILTER 2 INSOL ANGLE 50.0 DEG.

VA / SCA	0	10	20	30	40	50	60	70	80
0	0.	0.	0.	0.	0.	0.	0.	0.	0.
10	0.	0.	0.	0.	0.	0.	0.	0.	0.
20	0.	0.	0.	0.	0.	0.	0.	0.	0.
30	0.	0.	0.	0.	0.	0.	0.	0.	0.
40	0.	0.	0.	0.	0.	0.	0.	0.	0.
50	0.	0.	0.	0.	0.	0.	0.	0.	0.19
60	0.	0.	0.	0.	0.	0.	0.	0.25	0.21
70	0.	0.	0.	0.	0.	0.	0.31	0.24	0.21
80	0.	0.	0.	0.	0.	0.24	0.23	0.22	0.19
90	0.	0.	0.	0.	0.18	0.21	0.23	0.22	0.18
100	0.	0.	0.	0.16	0.18	0.21	0.19	0.19	0.17
110	0.	0.	0.19	0.16	0.17	0.17	0.19	0.17	0.17
120	0.	0.53	0.22	0.19	0.17	0.16	0.17	0.17	0.15
130	0.41	0.45	0.25	0.18	0.17	0.16	0.16	0.18	0.15
140	0.51	0.53	0.22	0.17	0.17	0.17	0.17	0.18	0.14
150	0.	0.36	0.18	0.17	0.17	0.17	0.17	0.18	0.14
160	0.	0.	0.18	0.16	0.16	0.16	0.16	0.18	0.
170	0.	0.	0.	0.	0.15	0.18	0.16	0.	0.
180	0.	0.	0.	0.	0.	0.	0.	0.	0.

RADIANCE VALUES ARE IN MICROWATTS. CLOUDS VA AND SCA ARE IN DEGREES.

TABLE 78

RMS FLUCTUATION AS A FUNCTION OF SCATTERING ANGLE

FILTER 2 INSOL ANGLE 50.0 DEG.

VA / SCA	0	10	20	30	40	50	60	70	80
0	0.	0.	0.	0.	0.	0.	0.	0.	0.
10	0.	0.	0.	0.	0.	0.	0.	0.	0.
20	0.	0.	0.	0.	0.	0.	0.	0.	0.
30	0.	0.	0.	0.	0.	0.	0.	0.	0.
40	0.	0.	0.	0.	0.	0.	0.	0.	0.
50	0.	0.	0.	0.	0.	0.	0.	0	0.16
60	0.	0.	0.	0.	0.	0.	0.	0.21	0.18
70	0.	0.	0.	0.	0.	0.	0.20	0.19	0.17
80	0.	0.	0.	0.	0.	0.18	0.18	0.17	0.14
90	0.	0.	0.	0.	0.13	0.15	0.16	0.18	0.15
100	0.	0.	0.	0.12	0.13	0.14	0.15	0.15	0.13
110	0.	0.	0.14	0.12	0.13	0.13	0.14	0.14	0.16
120	0.	0.58	0.25	0.17	0.14	0.11	0.14	0.13	0.13
130	0.44	0.54	0.23	0.15	0.13	0.12	0.11	0.14	0.12
140	0.44	0.62	0.24	0.14	0.13	0.13	0.13	0.14	0.11
150	0.	0.28	0.15	0.14	0.15	0.13	0.13	0.13	0.11
160	0.	0.	0.16	0.12	0.13	0.12	0.13	0.13	0.
170	0.	0.	0.	0.	0.12	0.14	0.13	0.	0.
180	0.	0.	0.	0.	0.	0.	0.	0.	0.

RADIANCE VALUES ARE IN MICROWATTS. CLOUDS VA AND SCA ARE IN DEGREES.

TABLE 79

NUMBER OF OBSERVATIONS AS A FUNCTION OF SUN AZIMUTH

FILTER 2 INSOL ANGLE 60.0 DEG.

VA / SA	0	10	20	30	40	50	60	70	80
0	0.	105.	0.	0.	238.	0.	390.	105.	0.
10	0.	120.	180.	150.	360.	195.	675.	165.	195.
20	0.	135.	0.	120.	300.	0.	749.	0.	0.
30	0.	165.	165.	240.	345.	179.	959.	135.	105.
40	0.	165.	195.	165.	480.	268.	960.	270.	180.
50	0.	0.	105.	0.	315.	0.	330.	255.	0.
60	0.	210.	255.	225.	390.	135.	225.	180.	105.
70	120.	195.	270.	195.	465.	195.	285.	300.	225.
80	0.	105.	0.	165.	330.	180.	285.	495.	225.
90	0.	180.	180.	180.	390.	165.	225.	2169.	0.
100	0.	165.	135.	180.	330.	180.	210.	1515.	195.
110	0.	180.	255.	225.	359.	180.	240.	660.	375.
120	120.	195.	225.	315.	600.	225.	417.	420.	480.
130	0.	120.	120.	0.	570.	120.	705.	375.	630.
140	135.	195.	210.	300.	600.	270.	750.	465.	614.
150	0.	195.	165.	210.	674.	210.	135.	345.	720.
160	0.	105.	178.	135.	555.	180.	120.	285.	899.
170	0.	165.	2516.	150.	555.	180.	150.	390.	1875.
180	0.	0.	0.	0.	270.	0.	0.	105.	955.

VA AND SA ARE IN DEGREES. CLOUDS

TABLE 80

IR MEAN RADIANCE AS A FUNCTION OF SUN AZIMUTH

FILTER 2 INSOL ANGLE 60.0 DEG.

VA / SA	0	10	20	30	40	50	60	70	80
0	0.	0.15	0.	0.	0.22	0.	0.34	0.80	0.
10	0.	0.17	0.11	0.14	0.17	0.20	0.34	0.50	0.40
20	0.	0.14	0.	0.17	0.18	0.	0.24	0.	0.
30	0.	0.14	0.12	0.15	0.14	0.20	0.20	0.36	0.23
40	0.	0.12	0.15	0.15	0.17	0.16	0.19	0.31	0.33
50	0.	0.	0.15	0.	0.15	0.	0.19	0.20	0.
60	0.	0.17	0.15	0.15	0.15	0.12	0.20	0.20	0.21
70	0.14	0.12	0.15	0.14	0.17	0.13	0.17	0.26	0.32
80	0.	0.16	0.	0.18	0.17	0.17	0.19	0.17	0.17
90	0.	0.18	0.18	0.17	0.16	0.23	0.22	0.20	0.
100	0.	0.16	0.17	0.19	0.16	0.20	0.19	0.20	0.17
110	0.	0.14	0.15	0.16	0.15	0.16	0.20	0.17	0.17
120	0.18	0.16	0.14	0.17	0.15	0.18	0.20	0.14	0.17
130	0.	0.17	0.14	0.	0.15	0.19	0.20	0.17	0.17
140	0.13	0.12	0.12	0.11	0.14	0.13	0.17	0.16	0.16
150	0.	0.18	0.14	0.13	0.15	0.15	0.15	0.16	0.16
160	0.	0.18	0.14	0.11	0.15	0.17	0.16	0.14	0.17
170	0.	0.14	0.19	0.09	0.14	0.13	0.11	0.14	0.15
180	0.	0.	0.	0.	0.16	0.	0.	0.16	0.15

RADIANCE VALUES ARE IN MICROWATTS. CLOUDS VA AND SA ARE IN DEGREES.

TABLE 81

IR RMS FLUCTUATION AS A FUNCTION OF SUN AZIMUTH

FILTER 2 INSOL ANGLE 60.0 DEG.

VA SA	0	10	20	30	40	50	60	70	80
0	0.	0.13	0.	0.	0.27	0.	0.23	0.43	0.
10	0.	0.15	0.05	0.09	0.12	0.11	0.22	0.25	0.36
20	0.	0.11	0.	0.12	0.12	0.	0.19	0.	0.
30	0.	0.10	0.08	0.09	0.11	0.11	0.14	0.17	0.20
40	0.	0.10	0.12	0.11	0.13	0.12	0.14	0.23	0.30
50	0.	0.	0.11	0.	0.11	0.	0.14	0.10	0.
60	0.	0.14	0.11	0.10	0.12	0.09	0.14	0.15	0.17
70	0.10	0.10	0.11	0.09	0.16	0.10	0.12	0.16	0.20
80	0.	0.13	0.	0.12	0.12	0.12	0.14	0.13	0.12
90	0.	0.12	0.12	0.12	0.12	0.12	0.14	0.15	0.
100	0.	0.12	0.12	0.12	0.11	0.12	0.13	0.16	0.12
110	0.	0.11	0.12	0.11	0.12	0.12	0.14	0.14	0.12
120	0.15	0.12	0.11	0.13	0.12	0.14	0.19	0.10	0.14
130	0.	0.17	0.11	0.	0.12	0.13	0.15	0.12	0.14
140	0.09	0.07	0.09	0.08	0.11	0.10	0.13	0.14	0.13
150	0.	0.10	0.10	0.10	0.11	0.11	0.11	0.13	0.14
160	0.	0.12	0.11	0.08	0.11	0.15	0.12	0.11	0.14
170	0.	0.09	0.15	0.05	0.11	0.14	0.05	0.11	0.12
180	0.	0.	0.	0.	0.13	0.	0.	0.12	0.12

RADIANCE VALUES ARE IN MICROWATTS. CLOUDS VA AND SA ARE IN DEGREES.

TABLE 82

NUMBER OF OBSERVATIONS AS A FUNCTION OF SCATTERING ANGLE

FILTER 2 INSOL ANGLE 60.0 DEG.

VA / SCA	0	10	20	30	40	50	60	70	80
0	0.	0.	0.	0.	0.	0.	0.	0.	0.
10	0.	0.	0.	0.	0.	0.	0.	0.	0.
20	0.	0.	0.	0.	0.	0.	0.	0.	0.
30	0.	0.	0.	0.	0.	0.	0.	0.	0.
40	0.	0.	0.	0.	0.	0.	0.	0.	0.
50	0.	0.	0.	0.	0.	0.	0.	0.	330.
60	0.	0.	0.	0.	0.	0.	0.	435.	270.
70	0.	0.	0.	0.	0.	0.	2024.	510.	120.
80	0.	0.	0.	0.	418.	554.	1949.	270.	270.
90	0.	0.	0.	120.	1230.	313.	480.	555.	180.
100	0.	0.	0.	660.	975.	300.	345.	2454.	165.
110	0.	135.	825.	540.	720.	270.	300.	1605.	435.
120	315.	1275.	675.	375.	615.	225.	330.	600.	660.
130	1110.	1050.	570.	390.	719.	285.	462.	570.	734.
140	0.	405.	570.	360.	810.	225.	1095.	495.	1140.
150	0.	0.	2739.	585.	1154.	315.	450.	510.	3594.
160	).	0.	0.	225.	1125.	210.	165.	570.	0.
170	0.	0.	0.	0.	360.	300.	180.	0.	0.
180	0.	0.	0.	0.	0.	0.	0.	0.	0.

VA AND SCA ARE IN DEGREES. CLOUDS

TABLE 83

IR MEAN RADIANCE AS A FUNCTION OF SCATTERING ANGLE

FILTER 2 INSOL ANGLE 60.0 DEG.

VA / SCA	0	10	20	30	40	50	60	70	80
0	0.	0.	0.	0.	0.	0.	0.	0.	0.
10	0.	0.	0.	0.	0.	0.	0.	0.	0.
20	0.	0.	0.	0.	0.	0.	0.	0.	0.
30	0.	0.	0	0.	0.	0.	0.	0.	0.
40	0.	0.	0.	0.	0.	0.	0.	0.	0.
50	0.	0.	0.	0.	0.	0.	0.	0.	0.40
60	0.	0.	0.	0.	0.	0.	0.	0.43	0.30
70	0.	0.	0.	0.	0.	0.	0.29	0.27	0.21
80	0.	0.	0.	0.	0.18	0.21	0.19	0.26	0.31
90	0.	0.	0.	0.25	0.17	0.14	0.19	0.18	0.16
100	0.	0.	0.	0.15	0.16	0.14	0.18	0.20	0.17
110	0.	0.16	0.14	0.15	0.17	0.20	0.20	0.20	0.17
120	0.15	0.16	0.17	0.18	0.16	0.20	0.19	0.17	0.17
130	0.14	0.16	0.15	0.16	0.16	0.15	0.20	0.15	0.17
140	0.	0.15	0.13	0.16	0.15	0.21	0.19	0.16	0.16
150	0.	0.	0.18	0.12	0.14	0.12	0.16	0.15	0.15
160	0.	0.	0.	0.11	0.14	0.17	0.19	0.14	0.
170	0.	0.	0.	0.	0.15	0.15	0.11	0.	0.
180	0.	0.	0.	0.	0.	0.	0.	0.	0.

RADIANCE VALUES ARE IN MICROWATTS. CLOUDS VA AND SCA ARE IN DEGREES.

TABLE 84

RMS FLUCTUATION AS A FUNCTION OF SCATTERING ANGLE

FILTER 2 INSOL ANGLE 60.0 DEG.

VA SA	0	10	20	30	40	50	60	70	80
0	0.	0.	0.	0.	0.	0.	0.	0.	0.
10	0.	0.	0.	0.	0.	0.	0.	0.	0.
20	0.	0.	0.	0.	0.	0.	0.	0.	0.
30	0.	0.	0.	0.	0.	0.	0.	0.	0.
40	0.	0.	0.	0.	0.	0.	0.	0.	0.
50	0.	0.	0.	0.	0.	0.	0.	0.	0.37
60	0.	0.	0.	0.	0.	0.	0.	0.28	0.27
70	0.	0.	0.	0.	0.	0.	0.21	0.18	0.16
80	0.	0.	0.	0.	0.19	0.15	0.14	0.17	0.19
90	0.	0.	0.	0.20	0.14	0.10	0.13	0.13	0.11
100	0.	0.	0.	0.12	0.12	0.10	0.14	0.15	0.11
110	0.	0.12	0.10	0.10	0.15	0.13	0.14	0.15	0.12
120	0.10	0.16	0.13	0.12	0.12	0.12	0.13	0.13	0.14
130	0.10	0.12	0.12	0.11	0.12	0.11	0.19	0.12	0.14
140	0.	0.10	0.10	0.12	0.12	0.15	0.14	0.13	0.14
150	0.	0.	0.14	0.09	0.11	0.08	0.13	0.13	0.12
160	0.	0.	0.	0.09	0.11	0.13	0.13	0.11	0.
170	0.	0.	0.	0.	0.12	0.15	0.05	0.	0.
180	0.	0.	0.	0.	0.	0.	0.	0.	0.

RADIANCE VALUES ARE IN MICROWATTS. CLOUDS VA AND SCA ARE IN DEGREES.

TABLE 85

NUMBER OF OBSERVATIONS AS A FUNCTION OF SUN AZIMUTH

FILTER 2 INSOL ANGLE 70.0 DEG.

VA / SA	0	10	20	30	40	50	60	70	80
0	0.	0.	105.	0.	0.	405.	0.	0.	330.
10	150.	270.	255.	491.	240.	703.	165.	360.	719.
20	0.	300.	255.	375.	195.	840.	165.	360.	675.
30	0.	195.	270.	390.	345.	720.	165.	480.	735.
40	0.	330.	330.	405.	285.	840.	150.	255.	795.
50	0.	270.	375.	675.	435.	525.	0.	238.	614.
60	0.	345.	419.	765.	570.	540.	240.	420.	510.
70	180.	345.	375.	675.	510.	435.	135.	299.	520.
80	120.	330.	210.	225.	554.	345.	495.	375.	510.
90	134.	450.	435.	525.	375.	435.	449.	240.	1109.
100	0.	479.	345.	600.	478.	446.	750.	315.	1080.
110	120.	285.	315.	690.	435.	492.	1844.	1035.	881.
120	135.	420.	478.	732.	450.	554.	240.	1005.	629.
130	0.	315.	225.	720.	764.	615.	210.	780.	689.
140	0.	300.	240.	585.	401.	448.	135.	700.	854.
150	0.	300.	300.	718.	524.	614.	300.	780.	840.
160	105.	360.	284.	720.	420.	645.	629.	795.	778.
170	0.	465.	240.	690.	539.	747.	840.	1320.	780.
180	0.	0.	120.	450.	300.	225.	1229.	853.	315.

VA AND SA ARE IN DEGREES. CLOUDS

TABLE 86

IR MEAN RADIANCE AS A FUNCTION OF SUN AZIMUTH

FILTER 2 INSOL ANGLE 70.0 DEG.

VA SA	0	10	20	30	40	50	60	70	80
0	0.	0.	0.29	0.	0.	0.31	0.	0.	0.91
10	0.33	0.29	0.27	0.37	0.50	0.30	0.49	0.36	0.90
20	0.	0.31	0.34	0.33	0.42	0.23	0.28	0.37	0.55
30	0.	0.29	0.33	0.35	0.43	0.23	0.48	0.38	0.55
40	0.	0.33	0.39	0.41	0.34	0.23	0.38	0.42	0.47
50	0.	0.32	0.35	0.36	0.49	0.27	0.	0.86	0.25
60	0.	0.45	0.38	0.31	0.37	0.24	0.37	0.73	0.20
70	0.25	0.23	0.35	0.29	0.42	0.37	0.49	0.71	0.26
80	0.14	0.29	0.35	0.17	0.38	0.36	0.28	0.41	0.21
90	0.36	0.29	0.33	0.18	0.39	0.24	0.17	0.25	0.20
100	0.	0.26	0.31	0.24	0.30	0.42	0.30	0.26	0.21
110	0.38	0.24	0.29	0.20	0.39	0.37	0.25	0.26	0.20
120	0.49	0.42	0.35	0.21	0.33	0.35	0.35	0.25	0.21
130	0.	0.45	0.38	0.23	0.37	0.37	0.33	0.25	0.17
140	0.	0.27	0.35	0.21	0.33	0.37	0.24	0.22	0.19
150	0.	0.36	0.33	0.20	0.33	0.31	0.25	0.20	0.17
160	0.41	0.45	0.41	0.19	0.39	0.41	0.22	0.27	0.22
170	0.	0.30	0.29	0.15	0.30	0.31	0.18	0.25	0.18
180	0.	0.	0.38	0.18	0.29	0.20	0.17	0.20	0.12

RADIANCE VALUES ARE IN MICROWATTS. CLOUDS VA AND SA ARE IN DEGREES.

TABLE 87

IR RMS FLUCTUATION AS A FUNCTION OF SUN AZIMUTH

FILTER 2 INSOL ANGLE 70.0 DEG.

VA / SA	0	10	20	30	40	50	60	70	80
0	0.	0.	0.24	0.	0.	0.33	0.	0.	0.39
10	0.19	0.24	0.21	0.36	0.42	0.37	0.27	0.31	0.35
20	0.	0.31	0.26	0.24	0.38	0.27	0.09	0.17	0.30
30	0.	0.29	0.28	0.26	0.32	0.23	0.27	0.36	0.34
40	0.	0.26	0.37	0.42	0.32	0.25	0.24	0.32	0.36
50	0.	0.22	0.31	0.34	0.38	0.29	0.	1.19	0.27
60	0.	0.39	0.30	0.26	0.33	0.28	0.24	0.99	0.23
70	0.29	0.22	0.30	0.34	0.53	0.32	0.29	0.80	0.30
80	0.07	0.35	0.29	0.23	0.46	0.37	0.25	0.44	0.27
90	0.49	0.26	0.32	0.19	0.47	0.26	0.14	0.19	0.23
100	0.	0.26	0.29	0.23	0.26	0.50	0.37	0.20	0.26
110	0.36	0.20	0.25	0.18	0.43	0.39	0.29	0.28	0.19
120	0.26	0.32	0.25	0.18	0.40	0.32	0.27	0.29	0.30
130	0.	0.36	0.27	0.22	0.38	0.36	0.23	0.26	0.24
140	0.	0.21	0.26	0.20	0.40	0.47	0.20	0.23	0.20
150	0.	0.27	0.27	0.19	0.39	0.38	0.22	0.17	0.18
160	0.27	0.34	0.37	0.21	0.39	0.45	0.21	0.27	0.26
170	0.	0.26	0.29	0.13	0.35	0.36	0.15	0.34	0.22
180	0.	0.	0.29	0.17	0.28	0.12	0.14	0.31	0.08

RADIANCE VALUES ARE IN MICROWATTS. CLOUDS VA AND SA ARE IN DEGREES.

TABLE 88

NUMBER OF OBSERVATIONS AS A FUNCTION OF SCATTERING ANGLE

FILTER 2 INSOL ANGLE 70.0 DEG.

VA / SCA	0	10	20	30	40	50	60	70	80
0	0.	0.	0.	0.	0.	0.	0.	0.	0.
10	0.	0.	0.	0.	0.	0.	0.	0.	0.
20	0.	0.	0.	0.	0.	0.	0.	0.	0.
30	0.	0.	0.	0.	0.	0.	0.	0.	630.
40	0.	0.	0.	0.	0.	0.	0.	150.	1409.
50	0.	0.	0.	0.	0.	0.	150.	990.	1050.
60	0.	0.	0.	0.	0.	1738.	420.	523.	854.
70	0.	0.	0.	0.	450.	1725.	225.	375.	645.
80	0.	0.	0.	731.	780.	960.	240.	479.	625.
90	0.	0.	615.	1785.	1050.	585.	390.	405.	899.
100	0.	900.	1379.	1485.	944.	540.	659.	315.	1245.
110	749.	2114.	1155.	720.	583.	536.	885.	435.	988.
120	840.	2130.	943.	1005.	735.	627.	1829.	1305.	702.
130	0.	735.	1229.	1782.	1094.	779.	270.	1005.	734.
140	0.	0.	255.	2443.	865.	643.	150.	860.	1019.
150	0.	0.	0.	570.	1244.	764.	285.	855.	990.
160	0.	0.	0.	0.	135.	1019.	509.	1050.	1153.
170	0.	0.	0.	0.	0.	658.	1095.	1753.	420.
180	0.	0.	0.	0.	0.	0.	1169.	165.	0.

VA AND SCA ARE IN DEGREES. CLOUDS

TABLE 89

IR MEAN RADIANCE AS A FUNCTION OF SCATTERING ANGLE

FILTER 2 INSOL ANGLE 70.0 DEG.

VA / SCA	0	10	20	30	40	50	60	70	80
0	0.	0.	0.	0.	0.	0.	0.	0.	0.
10	0.	0.	0.	0.	0.	0.	0.	0.	0.
20	0.	0.	0.	0.	0.	0.	0.	0.	0.
30	0.	0.	0.	0.	0.	0.	0.	0.	0.73
40	0.	0.	0.	0.	0.	0.	0.	0.49	0.70
50	0.	0.	0.	0.	0.	0.	0.44	0.34	0.51
60	0.	0.	0.	0.	0.	0.26	0.38	0.67	0.32
70	0.	0.	0.	0.	0.45	0.22	0.48	0.77	0.24
80	0.	0.	0.	0.33	0.43	0.31	0.41	0.64	0.22
90	0.	0.	0.29	0.36	0.42	0.32	0.34	0.34	0.21
100	0.	0.23	0.35	0.28	0.39	0.35	0.21	0.22	0.21
110	0.19	0.30	0.34	0.17	0.32	0.34	0.27	0.26	0.21
120	0.53	0.37	0.34	0.23	0.36	0.37	0.26	0.26	0.22
130	0.	0.39	0.36	0.22	0.35	0.37	0.31	0.23	0.15
140	0.	0.	0.39	0.17	0.32	0.38	0.40	0.24	0.20
150	0.	0.	0.	0.28	0.36	0.34	0.25	0.19	0.19
160	0.	0.	0.	0.	0.26	0.37	0.21	0.26	0.18
170	0	0.	0.	0.	0.	0.23	0.19	0.23	0.15
180	0.	0.	0.	0.	0.	0.	0.16	0.28	0.

RADIANCE VALUES ARE IN MICROWATTS. CLOUDS VA AND SCA ARE IN DEGREES.

TABLE 90

RMS FLUCTUATION AS A FUNCTION OF SCATTERING ANGLE

FILTER 2 INSOL ANGLE 70.0 DEG.

VA / SCA	0	10	20	30	40	50	60	70	80
0	0.	0.	0.	0.	0.	0.	0.	0.	0.
10	0.	0.	0.	0.	0.	0.	0.	0.	0.
20	0.	0.	0.	0.	0.	0.	0.	0.	0.
30	0.	0.	0.	0.	0.	0.	0.	0.	0.18
40	0.	0.	0.	0.	0.	0.	0.	0.41	0.43
50	0.	0.	0.	0.	0.	0.	0.29	0.28	0.39
60	0.	0.	0.	0.	0.	0.33	0.24	0.86	0.32
70	0.	0.	0.	0.	0.43	0.22	0.28	1.04	0.28
80	0.	0.	0.	0.32	0.35	0.31	0.26	0.70	0.25
90	0.	0.	0.29	0.33	0.44	0.32	0.27	0.31	0.25
100	0.	0.27	0.31	0.29	0.43	0.34	0.21	0.16	0.25
110	0.14	0.27	0.29	0.20	0.37	0.47	0.34	0.21	0.22
120	0.35	0.31	0.27	0.21	0.37	0.37	0.30	0.30	0.29
130	0.	0.29	0.30	0.20	0.39	0.36	0.22	0.25	0.22
140	0.	0.	0.27	0.17	0.37	0.42	0.24	0.25	0.21
150	0.	0.	0.	0.22	0.38	0.39	0.21	0.16	0.21
160	0.	0.	0.	0.	0.17	0.44	0.20	0.26	0.21
170	0.	0.	0.	0.	0.	0.17	0.17	0.34	0.22
180	0.	0.	0.	0.	0.	0.	0.13	0.40	0.

RADIANCE VALUES ARE IN MICROWATTS. CLOUDS VA AND SCA ARE IN DEGREES.

TABLE 91

NUMBER OF OBSERVATIONS AS A FUNCTION OF SUN AZIMUTH

FILTER 2 INSOL ANGLE 80.0 DEG.

VA SA	0	10	20	30	40	50	60	70	80
0	120.	960.	1155.	1063.	990.	0.	120.	405.	358.
10	330.	1300.	3103.	1740.	1918.	0.	435.	750.	614.
20	465.	780.	2726.	1695.	1784.	195.	525.	1185.	285.
30	163.	660.	2248.	1603.	1949.	373.	555.	1035.	555.
40	150.	510.	1783.	1541.	1551.	510.	599.	435.	1125.
50	0.	405.	1538.	1575.	1198.	674.	720.	345.	1316.
60	0.	479.	1372.	1484.	1147.	971.	148.	405.	1214.
70	135.	675.	718.	1230.	1288.	986.	210.	285.	1395.
80	180.	630.	375.	1125.	1213.	1078.	150.	270.	2471.
90	150.	583.	284.	450.	1181.	675.	209.	388.	2534.
100	314.	720.	360.	180.	1389.	240.	255.	614.	3216.
110	390.	851.	345.	313.	925.	225.	0.	674.	3568.
120	582.	839.	405.	120.	822.	210.	0.	570.	4074.
130	765.	765.	615.	568.	180.	255.	330.	360.	4107.
140	779.	615.	465.	675.	0.	360.	510.	434.	3869.
150	645.	600.	599.	570.	0.	465.	375.	614.	3373.
160	375.	390.	795.	330.	315.	270.	223.	600.	3402.
170	240.	465.	899.	255.	195.	490.	150.	585.	3795.
180	134.	315.	435.	0.	135.	180.	135.	253.	1620.

VA AND SA ARE IN DEGREES. CLOUDS

TABLE 92

IR MEAN RADIANCE AS A FUNCTION OF SUN AZIMUTH

FILTER 2 INSOL ANGLE 80.0 DEG.

VA / SA	0	10	20	30	40	50	60	70	80
0	0.09	0.09	0.10	0.14	0.25	0.	0.75	0.88	2.95
10	0.09	0.10	0.10	0.13	0.25	0.	0.61	0.88	2.50
20	0.10	0.10	0.09	0.14	0.22	0.23	0.44	0.89	1.80
30	0.16	0.10	0.10	0.14	0.21	0.21	0.41	0.62	1.01
40	0.19	0.09	0.10	0.13	0.20	0.18	0.32	0.45	0.81
50	0.	0.09	0.11	0.12	0.19	0.16	0.25	0.32	0.79
60	0.	0.10	0.18	0.12	0.16	0.13	0.12	0.22	0.62
70	0.18	0.11	0.13	0.12	0.12	0.11	0.14	0.16	0.31
80	0.22	0.12	0.15	0.10	0.13	0.12	0.12	0.10	0.17
90	0.24	0.12	0.09	0.11	0.12	0.10	0.14	0.12	0.11
100	0.29	0.13	0.09	0.10	0.11	0.08	0.12	0.09	0.09
110	0.33	0.18	0.10	0.10	0.11	0.09	0.	0.09	0.08
120	0.31	0.17	0.10	0.09	0.11	0.08	0.	0.09	0.08
130	0.24	0.14	0.08	0.08	0.11	0.09	0.08	0.08	0.08
140	0.22	0.22	0.08	0.08	0.	0.08	0.08	0.09	0.08
150	0.15	0.19	0.09	0.08	0.	0.09	0.09	0.09	0.08
160	0.10	0.10	0.09	0.08	0.09	0.10	0.10	0.08	0.08
170	0.08	0.08	0.09	0.07	0.07	0.10	0.10	0.08	0.09
180	0.08	0.08	0.07	0.	0.07	0.08	0.10	0.09	0.09

RADIANCE VALUES ARE IN MICROWATTS. CLOUDS VA AND SA ARE IN DEGREES.

TABLE 93

IR RMS FLUCTUATION AS A FUNCTION OF SUN AZIMUTH

FILTER 2 INSOL ANGLE 80.0 DEG.

VA / SA	0	10	20	30	40	50	60	70	80
0	0.07	0.08	0.08	0.13	0.16	0.	0.15	0.20	1.09
10	0.07	0.09	0.10	0.11	0.16	0.	0.21	0.22	1.26
20	0.09	0.09	0.08	0.12	0.15	0.15	0.21	0.33	0.68
30	0.14	0.09	0.09	0.11	0.15	0.15	0.23	0.29	0.56
40	0.15	0.07	0.12	0.11	0.15	0.14	0.23	0.21	0.35
50	0.	0.08	0.11	0.10	0.15	0.13	0.21	0.18	0.44
60	0.	0.13	0.17	0.10	0.14	0.12	0.20	0.16	0.40
70	0.09	0.09	0.13	0.11	0.10	0.10	0.12	0.12	0.37
80	0.10	0.10	0.14	0.09	0.11	0.11	0.09	0.09	0.20
90	0.10	0.10	0.09	0.10	0.11	0.09	0.11	0.11	0.12
100	0.10	0.11	0.07	0.09	0.11	0.08	0.09	0.09	0.09
110	0.15	0.12	0.08	0.08	0.10	0.06	0.	0.08	0.08
120	0.19	0.15	0.08	0.06	0.10	0.06	0.	0.09	0.07
130	0.16	0.13	0.07	0.06	0.10	0.08	0.06	0.08	0.07
140	0.17	0.20	0.07	0.07	0.	0.06	0.07	0.07	0.08
150	0.14	0.23	0.07	0.08	0.	0.07	0.07	0.07	0.09
160	0.07	0.12	0.07	0.06	0.08	0.10	0.10	0.08	0.11
170	0.07	0.06	0.08	0.06	0.06	0.15	0.08	0.07	0.08
180	0.06	0.06	0.06	0.	0.06	0.07	0.07	0.08	0.07

RADIANCE VALUES ARE IN MICROWATTS. CLOUDS VA AND SA ARE IN DEGREES.

TABLE 94

NUMBER OF OBSERVATIONS AS A FUNCTION OF SCATTERING ANGLE

FILTER 2 INSOL ANGLE 80.0 DEG.

VA SCA	0	10	20	30	40	50	60	70	80
0	0.	0.	0.	0.	0.	0.	0.	0.	0.
10	0.	0.	0.	0.	0.	0.	0.	0.	0.
20	0.	0.	0.	0.	0.	0.	0.	0.	702.
30	0.	0.	0.	0.	0.	0.	0.	315.	690.
40	0.	0.	0.	0.	0.	0.	210.	2730.	825.
50	0.	0.	0.	0.	0.	0.	1500.	780.	1394.
60	0.	0.	0.	0.	2818.	853.	899.	465.	1436.
70	0.	0.	0.	2234.	5538.	1139.	403.	360.	1080.
80	0.	0.	3899.	6518.	2286.	1271.	315.	315.	2384.
90	0.	3238.	9398.	3179.	2038.	1449.	255.	315.	2802.
100	2158.	3791.	1975.	1575.	1789.	825.	209.	552.	3160.
110	3819.	4313.	1245.	478.	1734.	240.	225.	690.	3609.
120	0.	1200.	2309.	898.	1272.	285.	0.	749.	4208.
130	0.	0.	1394.	1200.	0.	345.	225.	390.	4468.
140	0.	0.	0.	495.	240.	630.	645.	464.	4123.
150	0.	0.	0.	0.	450.	435.	478.	554.	3598.
160	0.	0.	0.	0.	0.	670.	405.	675.	4212.
170	0.	0.	0.	0.	0.	0.	0.	660.	4200.
180	0.	0.	0.	0.	0.	0.	0.	193.	0.

VA AND SCA ARE IN DEGREES. CLOUDS

TABLE 95

IR MEAN RADIANCE AS A FUNCTION OF SCATTERING ANGLE

FILTER 2 INSOL ANGLE 80.0 DEG

VA / SCA	0	10	20	30	40	50	60	70	80
0	0.	0.	0.	0.	0.	0.	0.	0.	0.
10	0.	0.	0.	0.	0.	0.	0.	0.	0.
20	0.	0.	0.	0.	0.	0.	0.	0.	3.12
30	0.	0.	0.	0.	0.	0.	0.	1.07	1.58
40	0.	0.	0.	0.	0.	0.	0.62	0.81	0.89
50	0.	0.	0.	0.	0.	0.	0.49	0.45	0.83
60	0.	0.	0.	0.	0.27	0.21	0.30	0.30	0.67
70	0.	0.	0.	0.16	0.20	0.16	0.13	0.20	0.52
80	0.	0.	0.10	0.12	0.17	0.12	0.13	0.13	0.17
90	0.	0.10	0.10	0.12	0.12	0.11	0.14	0.10	0.13
100	0.16	0.12	0.15	0.10	0.13	0.09	0.12	0.10	0.09
110	0.21	0.17	0.10	0.10	0.10	0.08	0.13	0.09	0.09
120	0.	0.08	0.08	0.08	0.11	0.08	0.	0.09	0.08
130	0.	0.	0.09	0.08	0.	0.09	0.08	0.09	0.08
140	0.	0.	0.	0.07	0.07	0.09	0.08	0.09	0.08
150	0.	0.	0.	0.	0.09	0.09	0.09	0.09	0.08
160	0.	0.	0.	0.	0.	0.09	0.10	0.08	0.09
170	0.	0.	0.	0.	0.	0.	0.	0.08	0.09
180	0.	0.	0.	0.	0.	0.	0.	0.10	0.

RADIANCE VALUES ARE IN MICROWATTS. CLOUDS VA AND SCA ARE IN DEGREES.

TABLE 96

RMS FLUCTUATION AS A FUNCTION OF SCATTERING ANGLE

FILTER 2 INSOL ANGLE 80.0 DEG.

VA SCA	0	10	20	30	40	50	60	70	80
0	0.	0.	0.	0.	0.	0.	0.	0.	0.
10	0.	0.	0.	0.	0.	0.	0.	0.	0.
20	0.	0.	0.	0.	0.	0.	0.	0.	1.06
30	0.	0.	0.	0.	0.	0.	0.	0.25	0.72
40	0.	0.	0.	0.	0.	0.	0.19	0.28	0.46
50	0.	0.	0.	0.	0.	0.	0.23	0.24	0.38
60	0.	0.	0.	0.	0.16	0.14	0.21	0.18	0.42
70	0.	0.	0.	0.13	0.15	0.13	0.15	0.15	0.42
80	0.	0.	0.09	0.11	0.14	0.12	0.12	0.11	0.19
90	0.	0.08	0.11	0.10	0.10	0.10	0.11	0.10	0.14
100	0.13	0.10	0.14	0.09	0.12	0.09	0.09	0.09	0.09
110	0.17	0.16	0.08	0.09	0.09	0.07	0.11	0.08	0.08
120	0.	0.08	0.07	0.06	0.10	0.06	0.	0.09	0.08
130	0.	0.	0.07	0.07	0.	0.07	0.06	0.09	0.07
140	0.	0.	0.	0.06	0.06	0.07	0.07	0.07	0.08
150	0.	0.	0.	0.	0.07	0.09	0.08	0.07	0.09
160	0.	0.	0.	0.	0.	0.13	0.09	0.08	0.10
170	0.	0.	0.	0.	0.	0.	0.	0.07	0.08
180	0.	0.	0.	0.	0.	0.	0.	0.08	0.

RADIANCE VALUES ARE IN MICROWATTS. CLOUDS VA AND SCA ARE IN DEGREES.

TABLE 97

NUMBER OF OBSERVATIONS AS A FUNCTION OF SUN AZIMUTH

FILTER 2 INSOL ANGLE 90.0 DEG.

VA SA	0	10	20	30	40	50	60	70	80
0	0.	0.	165.	891.	545.	570.	360.	795.	1008.
10	0.	104.	284.	2371.	808.	1214.	747.	1641.	1733.
20	0.	0.	176.	2389.	326.	989.	735.	1650.	1597.
30	0.	149.	150.	2650.	405.	1948.	779.	1613.	1683.
40	0.	132.	225.	1944.	359.	915.	480.	1749.	1409.
50	0.	135.	0.	2073.	268.	767.	507.	1732.	1531.
60	0.	119.	0.	1465.	189.	1088.	446.	1552.	1380.
70	0.	134.	0.	1487.	210.	1087.	660.	1254.	1351.
80	0.	132.	105.	1298.	180.	1118.	585.	1096.	1248.
90	0.	150.	0.	1501.	0.	1172.	614.	1384.	1282.
100	0.	163.	0.	1530.	119.	1386.	621.	1358.	1337.
110	0.	147.	104.	1102.	0.	920.	897.	1352.	982.
120	0.	0.	0.	1050.	104.	962.	937.	1480.	1037.
130	0.	103.	119.	929.	0.	1116.	1192.	1241.	1401.
140	0.	0.	0.	886.	0.	1282.	935.	1089.	1666.
150	0.	310.	160.	684.	0.	1337.	448.	1271.	2183.
160	0.	135.	180.	494.	0.	1267.	401.	3085.	2239.
170	0.	135.	191.	490.	0.	1438.	546.	1990.	1725.
180	0.	120.	103.	241.	0.	686.	299.	839.	1189.

VA AND SA ARE IN DEGREES. CLOUDS

TABLE 98

IR MEAN RADIANCE AS A FUNCTION OF SUN AZIMUTH

FILTER 2 INSOL ANGLE 90.0 DEG.

VA SA	0	10	20	30	40	50	60	70	80
0	0.	0.	0.11	0.23	0.22	0.47	0.25	0.75	9.92
10	0.	0.17	0.14	0.23	0.16	0.53	0.31	2.57	6.88
20	0.	0.	0.24	0.23	0.25	0.36	0.33	5.22	2.31
30	0.	0.23	0.11	0.21	0.23	0.33	0.29	5.10	0.85
40	0.	0.12	0.13	0.17	0.22	0.16	0.24	1.25	0.70
50	0.	0.12	0.	0.17	0.17	0.18	0.22	0.39	0.74
60	0.	0.13	0.	0.22	0.31	0.17	0.21	0.21	0.58
70	0.	0.22	0.	0.19	0.17	0.20	0.19	0.22	0.32
80	0.	0.19	0.12	0.18	0.14	0.19	0.20	0.28	0.20
90	0.	0.13	0.	0.18	0.	0.18	0.23	0.32	0.16
100	0.	0.22	0.	0.19	0.13	0.16	0.22	0.22	0.18
110	0.	0.19	0.23	0.15	0.	0.23	0.21	0.22	0.20
120	0.	0.	0.	0.11	0.20	0.19	0.18	0.21	0.16
130	0.	0.22	0.15	0.10	0.	0.24	0.15	0.17	0.15
140	0.	0.	0.	0.12	0.	0.26	0.19	0.17	0.14
150	0.	0.21	0.12	0.15	0.	0.24	0.17	0.22	0.10
160	0.	0.21	0.12	0.13	0.	0.27	0.21	0.20	0.12
170	0.	0.14	0.15	0.17	0.	0.29	0.22	0.19	0.14
180	0.	0.13	0.29	0.22	0.	0.33	0.18	0.18	0.12

RADIANCE VALUES ARE IN MICROWATTS. CLOUDS VA AND SA ARE IN DEGREES.

TABLE 99

IR RMS FLUCTUATION AS A FUNCTION OF SUN AZIMUTH

FILTER 2 INSOL ANGLE 90.0 DEG.

VA / SA	0	10	20	30	40	50	60	70	80
0	0.	0.	0.09	0.29	0.29	0.25	0.17	0.66	4.41
10	0.	0.24	0.16	0.30	0.14	0.23	0.23	5.00	4.38
20	0.	0.	0.36	0.30	0.30	0.20	0.26	8.09	2.06
30	0.	0.40	0.09	0.25	0.17	0.19	0.20	8.06	0.56
40	0.	0.09	0.17	0.20	0.18	0.14	0.17	5.91	0.43
50	0.	0.20	0.	0.20	0.19	0.16	0.28	0.33	0.52
60	0.	0.16	0.	0.23	0.36	0.17	0.28	0.15	0.47
70	0.	0.34	0.	0.19	0.18	0.21	0.15	0.19	0.45
80	0.	0.22	0.09	0.20	0.12	0.21	0.15	0.32	0.30
90	0.	0.10	0.	0.18	0.	0.21	0.19	0.35	0.26
100	0.	0.35	0.	0.29	0.10	0.27	0.24	0.26	0.33
110	0.	0.25	0.41	0.21	0.	0.32	0.22	0.19	0.37
120	0.	0.	0.	0.11	0.25	0.24	0.22	0.22	0.29
130	0.	0.37	0.11	0.09	0.	0.29	0.17	0.18	0.28
140	0.	0.	0.	0.14	0.	0.28	0.27	0.17	0.27
150	0.	0.34	0.09	0.17	0.	0.27	0.16	0.20	0.18
160	0.	0.33	0.10	0.12	0.	0.34	0.23	0.17	0.24
170	0.	0.11	0.16	0.17	0.	0.31	0.18	0.18	0.33
180	0.	0.10	0.37	0.21	0.	0.34	0.19	0.20	0.31

RADIANCE VALUES ARE IN MICROWATTS. CLOUDS VA AND SA ARE IN DEGREES.

TABLE 100

NUMBER OF OBSERVATIONS AS A FUNCTION OF SCATTERING ANGLE

FILTER 2 INSOL ANGLE 90.0 DEG.

VA / SCA	0	10	20	30	40	50	60	70	80
0	0.	0.	0.	0.	0.	0.	0.	0.	0.
10	0.	0.	0.	0.	0.	0.	0.	900.	435.
20	0.	0.	0.	0.	0.	0.	0.	2237.	2885.
30	0.	0.	0.	0.	0.	0.	1542.	2158.	2082.
40	0.	0.	0.	0.	255.	1979.	1124.	1778.	1626.
50	0.	0.	0.	0.	599.	3117.	644.	1897.	1612.
60	0.	0.	0.	4046.	1468.	1325.	477.	1642.	1461.
70	0.	0.	0.	8523.	463.	1489.	822.	1329.	1464.
80	0.	148.	1013.	3197.	325.	1588.	660.	1054.	1315.
90	0.	788.	218.	2987.	195.	1425.	674.	1490.	1208.
100	0.	593.	240.	1828.	179.	1688.	602.	1429.	1342.
110	0.	962.	352.	1841.	131.	1236.	929.	1362.	1087.
120	0.	0.	634.	2393.	164.	1724.	1194.	1469.	1034.
130	0.	0.	0.	660.	0.	2870.	1383.	1375.	1431.
140	0.	0.	0.	0.	0.	1850.	993.	1307.	1753.
150	0.	0.	0.	0.	0.	971.	936.	3333.	2407.
160	0.	0.	0.	0.	0.	0.	209.	2753.	1985.
170	0.	0.	0.	0.	0.	0.	0.	658.	2355.
180	0.	0.	0.	0.	0.	0.	0.	0.	499.

VA AND SCA ARE IN DEGREES. CLOUDS

TABLE 101

IR MEAN RADIANCE AS A FUNCTION OF SCATTERING ANGLE

FILTER 2 INSOL ANGLE 90.0 DEG.

VA / SCA	0	10	20	30	40	50	60	70	80
0	0.	0.	0.	0.	0.	0.	0.	0.	0.
10	0.	0.	0.	0.	0.	0.	0.	0.86	4.58
20	0.	0.	0.	0.	0.	0.	0.	3.51	7.53
30	0.	0.	0.	0.	0.	0.	0.31	5.82	1.37
40	0.	0.	0.	0.	0.24	0.48	0.29	1.38	0.71
50	0.	0.	0.	0.	0.25	0.33	0.23	0.44	0.72
60	0.	0.	0.	0.18	0.19	0.18	0.20	0.22	0.65
70	0.	0.	0.	0.21	0.16	0.16	0.21	0.21	0.36
80	0.	0.17	0.15	0.21	0.24	0.20	0.20	0.26	0.22
90	0.	0.17	0.19	0.19	0.12	0.18	0.23	0.32	0.14
100	0.	0.19	0.12	0.17	0.13	0.17	0.25	0.25	0.19
110	0.	0.20	0.21	0.14	0.30	0.22	0.20	0.21	0.21
120	0.	0.	0.16	0.12	0.14	0.22	0.17	0.21	0.16
130	0.	0.	0.	0.08	0.	0.25	0.16	0.17	0.14
140	0.	0.	0.	0.	0.	0.31	0.19	0.17	0.15
150	0.	0.	0.	0.	0.	0.28	0.20	0.21	0.10
160	0.	0.	0.	0.	0.	0.	0.18	0.19	0.12
170	0.	0.	0.	0.	0.	0.	0.	0.21	0.12
180	0.	0.	0.	0.	0.	0.	0.	0.	0.21

RADIANCE VALUES ARE IN MICROWATTS. CLOUDS VA AND SCA ARE IN DEGREES.

TABLE 102

RMS FLUCTUATION AS A FUNCTION OF SCATTERING ANGLE

FILTER 2 INSOL ANGLE 90.0 DEG.

VA SCA	0	10	20	30	40	50	60	70	80
0	0.	0.	0.	0.	0.	0.	0.	0.	0.
10	0.	0.	0.	0.	0.	0.	0.	0.86	3.28
20	0.	0.	0.	0.	0.	0.	0.	6.29	4.83
30	0.	0.	0.	0.	0.	0.	0.23	8.58	1.08
40	0.	0.	0.	0.	0.16	0.25	0.21	2.21	0.42
50	0.	0.	0.	0.	0.18	0.20	0.16	0.40	0.46
60	0.	0.	0.	0.13	0.24	0.16	0.25	0.15	0.54
70	0.	0.	0.	0.29	0.13	0.15	0.25	0.19	0.44
80	0.	0.21	0.20	0.22	0.33	0.20	0.15	0.26	0.34
90	0.	0.28	0.30	0.20	0.10	0.21	0.17	0.35	0.22
100	0.	0.25	0.10	0.30	0.10	0.26	0.25	0.30	0.34
110	0.	0.30	0.32	0.16	0.41	0.31	0.21	0.19	0.37
120	0.	0.	0.19	0.14	0.14	0.24	0.20	0.22	0.29
130	0.	0.	0.	0.07	0.	0.24	0.21	0.18	0.27
140	0.	0.	0.	0.	0.	0.34	0.23	0.17	0.28
150	0.	0.	0.	0.	0.	0.45	0.19	0.17	0.18
160	0.	0.	0.	0.	0.	0.	0.25	0.17	0.25
170	0.	0.	0.	0.	0.	0.	0.	0.29	0.28
180	0.	0.	0.	0.	0.	0.	0.	0.	0.46

RADIANCE VALUES ARE IN MICROWATTS. CLOUDS VA AND SCA ARE IN DEGREES.

TABLE 103

NUMBER OF OBSERVATIONS AS A FUNCTION OF SUN AZIMUTH

FILTER 2 INSOL ANGLE 50.0 DEG.

VA / SA	0	10	20	30	40	50	60	70	80
0	0.	0.	0.	240.	0.	491.	315.	405.	0.
10	0.	120.	150.	614.	.0.	1018.	780.	1200.	0.
20	0.	0.	135.	779.	276.	746.	1019.	1896.	275.
30	0.	170.	1114.	1074.	370.	997.	1078.	2638.	0.
40	0.	0.	509.	1067.	328.	688.	659.	3784.	0.
50	0.	135.	791.	1166.	713.	853.	900.	3368.	0.
60	0.	180.	838.	1388.	630.	912.	966.	3051.	179.
70	0.	135.	719.	1491.	701.	1107.	1674.	2843.	180.
80	0.	105.	600.	1741.	461.	1252.	1317.	2749.	105.
90	0.	105.	898.	2065.	460.	925.	1148.	2581.	0.
100	0.	105.	555.	1368.	686.	892.	1107.	2466.	0.
110	0.	0.	510.	1389.	713.	889.	854.	2849.	
120	0.	135.	540.	1400.	674.	954.	1433.	3506.	0.
130	0.	225.	570.	1519.	642.	995.	1975.	3028.	150.
140	0.	0.	598.	1189.	680.	584.	1483.	3374.	235.
150	0.	0.	491.	1442.	631.	490.	1033.	2817.	0.
160	0.	0.	465.	1356.	659.	465.	983.	2261.	0.
170	105.	195.	390.	1362.	508.	461.	1196.	2218.	150.
180	0.	0.	240.	612.	330.	320.	477.	990.	0.

VA AND SA ARE IN DEGREES. CLEAR

TABLE 104

IR MEAN RADIANCE AS A FUNCTION OF SUN AZIMUTH

FILTER 2 INSOL ANGLE 50.0 DEG.

VA / SA	0	10	20	30	40	50	60	70	80
0	0.	0.	0.	0.14	0.	0.16	0.08	0.16	0.
10	0.	0.10	0.11	0.15	0.	0.16	0.07	0.19	0.
20	0.	0.	0.08	0.15	0.15	0.16	0.06	0.19	0.11
30	0.	0.16	0.10	0.16	0.16	0.17	0.06	0.18	0.
40	0.	0.	0.10	0.18	0.19	0.19	0.07	0.14	0.
50	0.	0.11	0.08	0.18	0.16	0.16	0.11	0.16	0.
60	0.	0.13	0.08	0.17	0.16	0.17	0.14	0.17	0.13
70	0.	0.10	0.07	0.18	0.16	0.16	0.12	0.18	0.12
80	0.	0.09	0.07	0.18	0.17	0.16	0.11	0.18	0.13
90	0.	0.09	0.07	0.17	0.15	0.17	0.12	0.19	0.
100	0.	0.08	0.06	0.18	0.17	0.18	0.13	0.18	0.
110	0.	0.	0.07	0.18	0.17	0.18	0.12	0.16	0.
120	0.	0.09	0.07	0.17	0.17	0.17	0.15	0.16	0.
130	0.	0.10	0.08	0.17	0.15	0.17	0.15	0.16	0.16
140	0.	0.	0.08	0.19	0.18	0.17	0.15	0.16	0.15
150	0.	0.	0.08	0.18	0.19	0.16	0.16	0.15	0.
160	0.	0.	0.06	0.17	0.18	0.15	0.16	0.16	0.
170	0.07	0.07	0.07	0.17	0.15	0.13	0.16	0.16	0.09
180	0.	0.	0.06	0.16	0.16	0.13	0.14	0.15	0.

RADIANCE VALUES ARE IN MICROWATTS. CLEAR VA AND SA ARE IN DEGREES.

TABLE 105

IR RMS FLUCTUATION AS A FUNCTION OF SUN AZIMUTH

FILTER 2 INSOL ANGLE 50.0 DEG.

VA / SA	0	10	20	30	40	50	60	70	80
0	0.	0.	0.	0.12	0.	0.12	0.07	0.13	0.
10	0.	0.10	0.10	0.12	0.	0.14	0.07	0.14	0.
20	0.	0.	0.06	0.12	0.14	0.13	0.06	0.15	0.13
30	0.	0.16	0.08	0.13	0.13	0.13	0.06	0.14	0.
40	0.	0.	0.07	0.14	0.15	0.14	0.09	0.14	0.
50	0.	0.09	0.07	0.14	0.13	0.12	0.11	0.15	0.
60	0.	0.11	0.07	0.13	0.13	0.13	0.14	0.14	0.12
70	0.	0.08	0.06	0.14	0.14	0.13	0.13	0.15	0.08
80	0.	0.07	0.05	0.15	0.13	0.13	0.11	0.15	0.09
90	0.	0.07	0.06	0.14	0.13	0.14	0.11	0.15	0.
100	0.	0.07	0.06	0.16	0.13	0.14	0.12	0.15	0.
110	0.	0.	0.07	0.14	0.13	0.14	0.12	0.12	0.
120	0.	0.09	0.06	0.14	0.13	0.14	0.12	0.13	0.
130	0.	0.08	0.07	0.14	0.13	0.15	0.10	0.14	0,11
140	0.	0.	0.08	0.14	0.15	0.13	0.11	0.14	0.15
150	0.	0.	0.09	0.14	0.15	0.13	0.12	0.13	0.
160	0.	0.	0.06	0.13	0.15	0.11	0.12	0.14	0.
170	0.07	0.07	0.08	0.13	0.13	0.12	0.13	0.13	0.07
180	0.	0.	0.06	0.13	0.12	0.12	0.13	0.13	0.

RADIANCE VALUES ARE IN MICROWATTS. CLEAR VA AND SA ARE IN DEGREES.

TABLE 106

NUMBER OF OBSERVATIONS AS A FUNCTION OF SCATTERING ANGLE

FILTER 2 INSOL ANGLE 50.0 DEG.

VA SCA	0	10	20	30	40	50	60	70	80
0	0.	0.	0.	0.	0.	0.	0.	0.	0.
10	0.	0.	0.	0.	0.	0.	0.	0.	0.
20	0.	0.	0.	0.	0.	0.	0.	0.	0.
30	0.	0.	0.	0.	0.	0.	0.	0.	0.
40	0.	0.	0.	0.	0.	0.	0.	0.	0.
50	0.	0.	0.	0.	0.	0.	0.	0.	171.
60	0.	0.	0.	0.	0.	0.	0.	222.	313.
70	0.	0.	0.	0.	0.	0.	283.	8682.	193.
80	0.	0.	0.	0.	0.	225.	3074.	6086.	225.
90	0.	0.	0.	0.	352.	3044.	1904.	4891.	120.
100	0.	0.	0.	253.	1487.	2152.	2654.	4086.	149.
110	0.	0.	1983.	3747.	1419.	2239.	1822.	3924.	102.
120	0.	458.	2483.	4206.	861.	1714.	1660.	4622.	164.
130	745.	777.	1828.	4294.	1204.	1351.	1645.	4959.	267.
140	322.	788.	1350.	2984.	1063.	1535.	2693.	5503.	238.
150	0.	120.	1614.	3034.	993.	1084.	1783.	5049.	103.
160	0.	0.	900.	3890.	931.	629.	2090.	120.	0.
170	0.	0.	0.	854.	1002.	835.	789.	0.	0.
180	0.	0.	0.	0.	315.	240.	0.	0.	0.

VA AND SCA ARE IN DEGREES. CLEAR

TABLE 107

IR MEAN RADIANCE AS A FUNCTION OF SCATTERING ANGLE

FILTER 2 INSOL ANGLE 50.0 DEG.

VA / SCA	0	10	20	30	40	50	60	70	80
0	0.	0.	0.	0.	0.	0.	0.	0.	0.
10	0.	0.	0.	0.	0.	0.	0.	0.	0.
20	0.	0.	0.	0.	0.	0.	0.	0.	0.
30	0.	0.	0.	0.	0.	0.	0.	0.	0.
40	0.	0.	0.	0.	0.	0.	0.	0.	0.
50	0.	0.	0.	0.	0.	0.	0.	0.	0.12
60	0.	0.	0.	0.	0.	0.	0.	0.09	0.09
70	0.	0.	0.	0.	0.	0.	0.12	0.16	0.14
80	0.	0.	0.	0.	0.	0.09	0.06	0.17	0.12
90	0.	0.	0.	0.	0.11	0.17	0.10	0.18	0.12
100	0.	0.	0.	0.10	0.17	0.17	0.13	0.19	0.16
110	0.	0.	0.10	0.16	0.16	0.17	0.12	0.18	0.14
120	0.	0.11	0.08	0.18	0.15	0.17	0.12	0.15	0.15
130	0.12	0.11	0.07	0.18	0.17	0.18	0.14	0.17	0.14
140	0.09	0.11	0.08	0.17	0.16	0.17	0.15	0.16	0.11
150	0.	0.07	0.08	0.18	0.17	0.18	0.16	0.16	0.09
160	0.	0.	0.06	0.17	0.19	0.15	0.15	0.	0.
170	0.	0.	0.	0.16	0.16	0.13	0.16	0.	0.
180	0.	0.	0.	0.	0.17	0.13	0.	0.	0.

RADIANCE VALUES ARE IN MICROWATTS. CLEAR VA AND SCA ARE IN DEGREES.

TABLE 108

RMS FLUCTUATION AS A FUNCTION OF SCATTERING ANGLE

FILTER 2 INSOL ANGLE 50.0 DEG.

VA / SCA	0	10	20	30	40	50	60	70	80
0	0.	0.	0.	0.	0.	0.	0.	0.	0.
10	0.	0.	0.	0.	0.	0.	0.	0.	0.
20	0.	0.	0.	0.	0.	0.	0.	0.	0.
30	0.	0.	0.	0.	0.	0.	0.	0.	0.
40	0.	0.	0.	0.	0.	0.	0.	0.	0.
50	0.	0.	0.	0.	0.	0.	0.	0	0.14
60	0.	0.	0.	0.	0.	0.	0.	0.07	0.10
70	0.	0.	0.	0.	0.	0.	0.10	0.14	0.15
80	0.	0.	0.	0.	0.	0.08	0.06	0.14	0.08
90	0.	0.	0.	0.	0.11	0.13	0.10	0.15	0.09
100	0.	0.	0.	0.11	0.13	0.13	0.13	0.15	0.12
110	0.	0.	0.08	0.13	0.13	0.13	0.12	0.15	0.10
120	0.	0.12	0.07	0.14	0.13	0.14	0.12	0.12	0.11
130	0.13	0.09	0.06	0.15	0.13	0.14	0.12	0.20	0.14
140	0.08	0.09	0.07	0.14	0.13	0.14	0.10	0.15	0.11
150	0.	0.08	0.08	0.15	0.14	0.15	0.12	0.12	0.08
160	0.	0.	0.06	0.13	0.15	0.12	0.13	0.07	0.
170	0.	0.	0.	0.13	0.13	0.12	0.13	0.	0.
180	0.	0.	0.	0.	0.13	0.11	0.	0.	0.

RADIANCE VALUES ARE IN MICROWATTS. CLEAR VA AND SCA ARE IN DEGREES.

TABLE 109

NUMBER OF OBSERVATIONS AS A FUNCTION OF SUN AZIMUTH

FILTER 2 INSOL ANGLE 60.0 DEG.

VA SA	0	10	20	30	40	50	60	70	80
0	0.	135.	225.	172.	135.	150.	281.	796.	150.
10	0.	225.	480.	267.	150.	195.	597.	1244.	135.
20	0.	105.	255.	135.	105.	135.	622.	826.	120.
30	99.	196.	254.	249.	0.	173.	580.	1038.	0.
40	105.	459.	520.	463.	438.	248.	713.	836.	236.
50	137.	300.	235.	371.	178.	327.	719.	428.	235.
60	0.	254.	415.	329.	225.	127.	753.	269.	299.
70	104.	239.	502.	459.	330.	324.	746.	390.	299.
80	0.	240.	443.	256.	178.	251.	477.	368.	339.
90	0.	145.	271.	242.	116.	212.	517.	255.	180.
100	147.	273.	456.	366.	203.	171.	533.	295.	162.
110	120.	195.	327.	284.	190.	235.	489.	161.	244.
120	135.	225.	430.	421.	269.	344.	418.	345.	282.
130	114.	343.	444.	296.	267.	299.	647.	420.	412.
140	218.	299.	495.	392.	313.	343.	647.	404.	234.
150	129.	238.	477.	461.	390.	373.	712.	492.	478.
160	0.	0.	224.	232.	144.	120.	537.	315.	359.
170	150.	180.	327.	261.	210.	270.	492.	420.	165.
180	0.	150.	255.	170.	150.	90.	284.	150.	105.

VA AND SA ARE IN DEGREES. CLEAR

TABLE 110

IR MEAN RADIANCE AS A FUNCTION OF SUN AZIMUTH

FILTER 2 INSOL ANGLE 60.0 DEG.

VA / SA	0	10	20	30	40	50	60	70	80
0	0.	0.47	0.23	0.48	0.40	0.35	0.18	0.12	0.19
10	0.	0.52	0.31	0.43	0.43	0.45	0.22	0.13	0.24
20	0.	0.40	0.22	0.38	0.66	0.43	0.20	0.19	0.17
30	0.	0.48	0.38	0.45	0.	0.34	0.17	0.12	0.
40	0.34	0.53	0.36	0.42	0.46	0.40	0.23	0.18	0.20
50	0.69	0.49	0.25	0.36	0.52	0.42	0.22	0.25	0.25
60	0.	0.73	0.38	0.52	0.65	0.65	0.29	0.30	0.26
70	0.69	0.50	0.32	0.35	0.37	0.35	0.23	0.30	0.25
80	0.	0.28	0.17	0.23	0.33	0.27	0.20	0.27	0.26
90	0.	0.30	0.19	0.31	0.29	0.26	0.13	0.15	0.20
100	0.31	0.28	0.22	0.29	0.35	0.28	0.16	0.18	0.24
110	0.46	0.37	0.24	0.28	0.35	0.26	0.17	0.25	0.26
120	0.77	0.38	0.30	0.39	0.35	0.33	0.20	0.23	0.20
130	0.77	0.66	0.41	0.53	0.62	0.43	0.34	0.32	0.29
140	0.63	0.47	0.37	0.41	0.49	0.41	0.26	0.31	0.30
150	0.36	0.48	0.28	0.31	0.33	0.37	0.21	0.28	0.25
160	0.	0.	0.26	0.37	0.54	0.49	0.20	0.17	0.17
170	0.59	0.63	0.33	0.52	0.37	0.44	0.24	0.31	0.32
180	0.	0.47	0.34	0.39	0.50	0.39	0.22	0.31	0.38

RADIANCE VALUES ARE IN MICROWATTS. CLEAR VA AND SA ARE IN DEGREES.

TABLE 111

IR RMS FLUCTUATION AS A FUNCTION OF SUN AZIMUTH

FILTER 2 INSOL ANGLE 60.0 DEG.

VA SA	0	10	20	30	40	50	60	70	80
0	0.	0.33	0.27	0.34	0.31	0.27	0.16	0.16	0.14
10	0.	0.31	0.32	0.31	0.30	0.28	0.22	0.17	0.15
20	0.	0.30	0.28	0.36	0.39	0.31	0.21	0.19	0.13
30	0.73	0.66	0.60	0.67	0.	0.35	0.21	0.13	0.
40	0.25	0.66	0.41	0.47	0.45	0.33	0.25	0.20	0.22
50	0.66	0.33	0.25	0.32	0.49	0.33	0.24	0.22	0.23
60	0.	0.51	0.37	0.37	0.42	0.32	0.34	0.26	0.20
70	0.53	0.58	0.36	0.31	0.29	0.28	0.29	0.23	0.19
80	0.	0.31	0.22	0.22	0.32	0.23	0.26	0.27	0.22
90	0.	0.32	0.26	0.31	0.31	0.29	0.19	0.18	0.25
100	0.31	0.28	0.28	0.33	0.33	0.30	0.20	0.20	0.26
110	0.30	0.26	0.25	0.24	0.28	0.23	0.22	0.28	0.25
120	0.39	0.31	0.30	0.34	0.24	0.24	0.20	0.18	0.15
130	0.70	0.60	0.48	0.57	0.61	0.45	0.41	0.26	0.21
140	0.56	0.65	0.50	0.50	0.57	0.47	0.31	0.24	0.19
150	0.61	0.38	0.26	0.30	0.29	0.35	0.25	0.28	0.22
160	0.	0.	0.26	0.30	0.57	0.27	0.21	0.17	0.18
170	0.35	0.30	0.30	0.29	0.25	0.24	0.25	0.25	0.19
180	0.	0.30	0.29	0.27	0.24	0.18	0.23	0.28	0.24

RADIANCE VALUES ARE IN MICROWATTS. CLEAR VA AND SA ARE IN DEGREES.

TABLE 112

NUMBER OF OBSERVATIONS AS A FUNCTION OF SCATTERING ANGLE

FILTER 2 INSOL ANGLE 60.0 DEG.

VA / SCA	0	10	20	30	40	50	60	70	80
0	0.	0.	0.	0.	0.	0.	0.	0.	0.
10	0.	0.	0.	0.	0.	0.	0.	0.	0.
20	0.	0.	0.	0.	0.	0.	0.	0.	0.
30	0.	0.	0.	0.	0.	0.	0.	0.	0.
40	0.	0.	0.	0.	0.	0.	0.	0.	150.
50	0.	0.	0.	0.	0.	0.	0.	2363.	334.
60	0.	0.	0.	0.	0.	0.	120.	2057.	389.
70	0.	0.	0.	0.	0.	210.	1953.	706.	341.
80	0.	0.	0.	0.	180.	736.	1364.	491.	358.
90	0.	0.	0.	315.	734.	394.	1374.	522.	391.
100	0.	0.	783.	1264.	563.	457.	717.	326.	247.
110	0.	570.	1553.	890.	373.	302.	670.	324.	274.
120	699.	1606.	1221.	630.	230.	360.	740.	327.	390.
130	1276.	1562.	1211.	766.	429.	374.	545.	480.	372.
140	0.	538.	1327.	926.	431.	448.	897.	554.	689.
150	0.	0.	940.	720.	538.	446.	876.	807.	523.
160	0.	0.	0.	315.	354.	210.	687.	450.	0.
170	0.	0.	0.	0.	240.	375.	806.	0.	0.
180	0.	0.	0.	0.	0.	0.	0.	0.	0.

VA AND SCA ARE IN DEGREES. CLEAR

TABLE 113

IR MEAN RADIANCE AS A FUNCTION OF SCATTERING ANGLE

FILTER 2 INSOL ANGLE 60.0 DEG.

VA / SCA	0	10	20	30	40	50	60	70	80
0	0.	0.	0.	0.	0.	0.	0.	0.	0.
10	0.	0.	0.	0.	0.	0.	0.	0.	0.
20	0.	0.	0.	0.	0.	0.	0.	0.	0.
30	0.	0.	0.	0.	0.	0.	0.	0.	0.
40	0.	0.	0.	0.	0.	0.	0.	0.	0.22
50	0.	0.	0.	0.	0.	0.	0.	0.12	0.17
60	0.	0.	0.	0.	0.	0.	0.20	0.15	0.20
70	0.	0.	0.	0.	0.	0.24	0.20	0.24	0.25
80	0.	0.	0.	0.	0.21	0.40	0.20	0.30	0.27
90	0.	0.	0.	0.30	0.45	0.46	0.29	0.30	0.26
100	0.	0.	0.14	0.39	0.55	0.39	0.18	0.19	0.23
110	0.	0.28	0.35	0.46	0.47	0.28	0.14	0.18	0.24
120	0.30	0.52	0.32	0.30	0.30	0.27	0.14	0.25	0.26
130	0.65	0.42	0.21	0.27	0.34	0.28	0.23	0.30	0.29
140	0.	0.75	0.39	0.40	0.50	0.42	0.32	0.29	0.22
150	0.	0.	0.29	0.42	0.40	0.36	0.23	0.24	0.29
160	0.	0.	0.	0.59	0.49	0.54	0.21	0.35	0.
170	0.	0.	0.	0.	0.50	0.44	0.22	0.	0.
180	0.	0.	0.	0.	0.	0.	0.	0.	0.

RADIANCE VALUES ARE IN MICROWATTS. CLEAR VA AND SCA ARE IN DEGREES.

TABLE 114

RMS FLUCTUATION AS A FUNCTION OF SCATTERING ANGLE

FILTER 2 INSOL ANGLE 60.0 DEG.

VA / SCA	0	10	20	30	40	50	60	70	80
0	0.	0.	0.	0.	0.	0.	0.	0.	0.
10	0.	0.	0.	0.	0.	0.	0.	0.	0.
20	0.	0.	0.	0.	0.	0.	0.	0.	0.
30	0.	0.	0.	0.	0.	0.	0.	0.	0.
40	0.	0.	0.	0.	0.	0.	0.	0.	0.16
50	0.	0.	0.	0.	0.	0.	0.	0.15	0.12
60	0.	0.	0.	0.	0.	0.	0.12	0.18	0.23
70	0.	0.	0.	0.	0.	0.20	0.21	0.20	0.18
80	0.	0.	0.	0.	0.11	0.32	0.21	0.25	0.21
90	0.	0.	0.	0.22	0.40	0.34	0.33	0.25	0.23
100	0.	0.	0.11	0.45	0.44	0.30	0.25	0.23	0.25
110	0.	0.19	0.41	0.38	0.39	0.31	0.19	0.20	0.23
120	0.30	0.54	0.37	0.32	0.31	0.29	0.19	0.25	0.21
130	0.53	0.45	0.23	0.28	0.28	0.19	0.27	0.24	0.20
140	0.	0.48	0.45	0.44	0.52	0.40	0.38	0.25	0.20
150	0.	0.	0.30	0.40	0.46	0.42	0.27	0.25	0.22
160	0.	0.	0.	0.25	0.45	0.39	0.22	0.25	0.
170	0.	0.	0.	0.	0.25	0.26	0.24	0.	0.
180	0.	0.	0.	0.	0.	0.	0.	0.	0.

RADIANCE VALUES ARE IN MICROWATTS. CLEAR VA AND SCA ARE IN DEGREES.

TABLE 115

NUMBER OF OBSERVATIONS AS A FUNCTION OF SUN AZIMUTH

FILTER 2 INSOL ANGLE 70.0 DEG.

VA / SA	0	10	20	30	40	50	60	70	80
0	0.	0.	0.	0.	0.	555.	0.	0.	210.
10	0.	0.	195.	0.	0.	765.	165.	0.	540.
20	0.	0.	210.	0.	0.	240.	270.	105.	735.
30	0.	135.	330.	225.	134.	150.	0.	0.	555.
40	0.	0.	165.	0.	0.	135.	720.	0.	450.
50	0.	0.	150.	.0.	0.	0.	690.	0.	885.
60	0.	105.	180.	0.	0.	105.	540.	0.	540.
70	0.	105.	180.	0.	0.	0.	375.	0.	675.
80	0.	179.	225.	195.	0.	840.	465.	0.	371.
90	0.	420.	195.	765.	0.	225.	300.	0.	270.
100	0.	255.	285.	255.	195.	255.	210.	0.	240.
110	0.	405.	210.	375.	180.	330.	342.	0.	405.
120	0.	225.	195.	720.	254.	435.	300.	0.	1065.
130	0.	225.	210.	690.	255.	285.	270.	0.	1290.
140	0.	210.	255.	585.	645.	135.	285.	0.	1260.
150	0.	285.	210.	600.	1020.	584.	345.	0.	1200.
160	0.	255.	195.	660.	1560.	435.	330.	0.	480.
170	0.	255.	270.	615.	1455.	390.	360.	0.	330.
180	0.	0.	0.	210.	510.	210.	150.	0.	270.

VA AND SA ARE IN DEGREES. CLEAR

TABLE 116

IR MEAN RADIANCE AS A FUNCTION OF SUN AZIMUTH

FILTER 2 INSOL ANGLE 70.0 DEG.

VA / SA	0	10	20	30	40	50	60	70	80
0	0.	0.	0.	0.	0.	0.25	0.	0.	0.08
10	0.	0.	0.22	0.	0.	0.22	0.20	0.	0.14
20	0.	0.	0.22	0.	0.	0.29	0.31	0.53	0.19
30	0.	0.72	0.29	0.40	0.41	0.27	0.	0.	0.24
40	0.	0.	0.17	0.	0.	0.26	0.22	0.	0.19
50	0.	0.	0.15	0.	0.	0.	0.17	0.	0.19
60	0.	0.15	0.13	0.	0.	0.15	0.18	0.	0.18
70	0.	0.92	0.22	0.	0.	0.	0.17	0.	0.16
80	0.	0.21	0.18	0.25	0.	0.09	0.20	0.	0.24
90	0.	0.10	0.12	0.13	0.	0.11	0.22	0.	0.20
100	0.	0.16	0.18	0.19	0.12	0.11	0.18	0.	0.16
110	0.	0.18	0.23	0.19	0.13	0.11	0.18	0.	0.27
120	0.	0.17	0.15	0.16	0.16	0.16	0.22	0.	0.16
130	0.	0.14	0.17	0.16	0.11	0.13	0.18	0.	0.15
140	0.	0.22	0.20	0.15	0.10	0.09	0.16	0.	0.15
150	0.	0.36	0.23	0.19	0.12	0.13	0.23	0.	0.20
160	0.	0.19	0.21	0.16	0.09	0.09	0.17	0.	0.12
170	0.	0.26	0.17	0.14	0.09	0.11	0.22	0.	0.12
180	0.	0.	0.	0.14	0.08	0.14	0.21	0.	0.21

RADIANCE VALUES ARE IN MICROWATTS. CLEAR VA AND SA ARE IN DEGREES.

TABLE 117

IR RMS FLUCTUATION AS A FUNCTION OF SUN AZIMUTH

FILTER 2 INSOL ANGLE 70.0 DEG.

VA / SA	0	10	20	30	40	50	60	70	80
0	0.	0.	0.	0.	0.	0.10	0.	0.	0.07
10	0.	0.	0.17	0.	0.	0.10	0.14	0.	0.14
20	0.	0.	0.15	0.	0.	0.16	0.18	0.17	0.20
30	0.	0.31	0.17	0.11	0.11	0.18	0.	0.	0.26
40	0.	0.	0.09	0.	0.	0.18	0.14	0.	0.13
50	0.	0.	0.08	0.	0.	0.	0.10	0.	0.19
60	0.	0.09	0.08	0.	0.	0.08	0.10	0.	0.10
70	0.	0.62	0.20	0.	0.	0.	0.09	0.	0.10
80	0.	0.24	0.15	0.16	0.	0.12	0.12	0.	0.14
90	0.	0.08	0.09	0.08	0.	0.11	0.13	0.	0.16
100	0.	0.18	0.13	0.13	0.15	0.13	0.09	0.	0.12
110	0.	0.24	0.17	0.14	0.15	0.13	0.15	0.	0.21
120	0.	0.18	0.11	0.11	0.16	0.16	0.15	0.	0.15
130	0.	0.10	0.12	0.11	0.12	0.13	0.14	0.	0.14
140	0.	0.23	0.16	0.11	0.08	0.08	0.10	0.	0.13
150	0.	0.51	0.20	0.12	0.11	0.14	0.15	0.	0.15
160	0.	0.16	0.14	0.13	0.09	0.10	0.10	0.	0.12
170	0.	0.24	0.13	0.11	0.10	0.13	0.14	0.	0.12
180	0.	0.	0.	0.11	0.07	0.15	0.13	0.	0.19

RADIANCE VALUES ARE IN MICROWATTS. CLEAR VA AND SA ARE IN DEGREES.

TABLE 118

NUMBER OF OBSERVATIONS AS A FUNCTION OF SCATTERING ANGLE

FILTER 2 INSOL ANGLE 70.0 DEG.

VA SCA	0	10	20	30	40	50	60	70	80
0	0.	0.	0.	0.	0.	0.	0.	0.	0.
10	0.	0.	0.	0.	0.	0.	0.	0.	0.
20	0.	0.	0.	0.	0.	0.	0.	0.	0.
30	0.	0.	0.	0.	0.	0.	0.	0.	360.
40	0.	0.	0.	0.	0.	0.	0.	0.	1320.
50	0.	0.	0.	0.	0.	0.	300.	150.	750.
60	0.	0.	0.	0.	0.	105.	405.	0.	960.
70	0.	0.	0.	0.	165.	1590.	930.	0.	990.
80	0.	0.	0.	180.	149.	195.	885.	0.	315.
90	0.	0.	180.	225.	0.	165.	645.	0.	431.
100	0.	210.	885.	0.	0.	885.	465.	0.	240.
110	315.	523.	705.	855.	0.	330.	255.	0.	420.
120	0.	1544.	765.	630.	300.	465.	447.	118.	855.
130	0.	1065.	1095.	1215.	389.	495.	360.	0.	1725.
140	0.	0.	210.	1395.	735.	300.	300.	0.	1665.
150	0.	0.	0.	1485.	3645.	704.	390.	0.	810.
160	0.	0.	0.	0.	930.	900.	345.	0.	750.
170	0.	0.	0.	0.	0.	0.	465.	0.	180.
180	0.	0.	0.	0.	0.	0.	0.	0.	0.

VA AND SCA ARE IN DEGREES. CLEAR

TABLE 119

IR MEAN RADIANCE AS A FUNCTION OF SCATTERING ANGLE

FILTER 2 INSOL ANGLE 70.0 DEG.

VA / SCA	0	10	20	30	40	50	60	70	80
0	0.	0.	0.	0.	0.	0.	0.	0.	0.
10	0.	0.	0.	0.	0.	0.	0.	0.	0.
20	0.	0.	0.	0.	0.	0.	0.	0.	0.
30	0.	0.	0.	0.	0.	0.	0.	0.	0.11
40	0.	0.	0.	0.	0.	0.	0.	0.	0.17
50	0.	0.	0.	0.	0.	0.	0.24	0.58	0.23
60	0.	0.	0.	0.	0.	0.41	0.29	0.	0.18
70	0.	0.	0.	0.	0.41	0.24	0.19	0.	0.17
80	0.	0.	0.	0.42	0.42	0.17	0.17	0.	0.22
90	0.	0.	0.41	0.28	0.	0.19	0.20	0.	0.24
100	0.	0.56	0.21	0.	0.	0.08	0.19	0.	0.16
110	1.08	0.47	0.17	0.14	0.	0.13	0.19	0.	0.25
120	0.	0.22	0.18	0.19	0.13	0.12	0.19	0.43	0.20
130	0.	0.12	0.19	0.16	0.13	0.16	0.21	0.	0.14
140	0.	0.	0.11	0.17	0.11	0.09	0.15	0.	0.16
150	0.	0.	0.	0.14	0.08	0.13	0.23	0.	0.18
160	0.	0.	0.	0.	0.12	0.09	0.17	0.	0.13
170	0.	0.	0.	0.	0.	0.	0.22	0.	0.18
180	0.	0.	0.	0.	0.	0.	0.	0.	0.

RADIANCE VALUES ARE IN MICROWATTS. CLEAR VA AND SCA ARE IN DEGREES.

TABLE 120

RMS FLUCTUATION AS A FUNCTION OF SCATTERING ANGLE

FILTER 2 INSOL ANGLE 70.0 DEG.

VA / SCA	0	10	20	30	40	50	60	70	80
0	0.	0.	0.	0.	0.	0.	0.	0.	0.
10	0.	0.	0.	0.	0.	0.	0.	0.	0.
20	0.	0.	0.	0.	0.	0.	0.	0.	0.
30	0.	0.	0.	0.	0.	0.	0.	0.	0.16
40	0.	0.	0.	0.	0.	0.	0.	0.	0.16
50	0.	0.	0.	0.	0.	0.	0.17	0.24	0.23
60	0.	0.	0.	0.	0.	0.13	0.20	0.	0.19
70	0.	0.	0.	0.	0.12	0.12	0.11	0.	0.09
80	0.	0.	0.	0.13	0.11	0.09	0.09	0.	0.12
90	0.	0.	0.12	0.17	0.	0.12	0.11	0.	0.16
100	0.	0.22	0.15	0.	0.	0.11	0.12	0.	0.13
110	0.52	0.47	0.14	0.10	0.	0.14	0.09	0.	0.20
120	0.	0.29	0.14	0.14	0.15	0.14	0.16	0.14	0.16
130	0.	0.09	0.15	0.11	0.14	0.16	0.14	0.	0.13
140	0.	0.	0.08	0.13	0.11	0.07	0.10	0.	0.13
150	0.	0.	0.	0.09	0.09	0.14	0.14	0.	0.17
160	0.	0.	0.	0.	0.09	0.11	0.10	0.	0.13
170	0.	0.	0.	0.	0.	0.	0.14	0.	0.19
180	0.	0.	0.	0.	0.	0.	0.	0.	0.

RADIANCE VALUES ARE IN MICROWATTS. CLEAR VA AND SCA ARE IN DEGREES.

TABLE 121

RMS FLUCTUATION AS A FUNCTION OF SCATTERING ANGLE

FILTER 2 INSOL ANGLE 70.0 DEG.

VA / SCA	0	10	20	30	40	50	60	70	80
0	0.	0.	0.	0.	0.	0.	0.	0.	0.
10	0.	0.	0.	0.	0.	0.	0.	0.	0.
20	0.	0.	0.	0.	0.	0.	0.	0.	0.
30	0.	0.	0.	0.	0.	0.	0.	0.	0.16
40	0.	0.	0.	0.	0.	0.	0.	0.	0.16
50	0.	0.	0.	0.	0.	0.	0.17	0.24	0.23
60	0.	0.	0.	0.	0.	0.13	0.20	0.	0.19
70	0.	0.	0.	0.	0.12	0.12	0.11	0.	0.09
80	0.	0.	0.	0.13	0.11	0.09	0.09	0.	0.12
90	0.	0.	0.12	0.17	0.	0.12	0.11	0.	0.16
100	0.	0.22	0.15	0.	0.	0.11	0.12	0.	0.13
110	0.52	0.47	0.14	0.10	0.	0.14	0.09	0.	0.20
120	0.	0.29	0.14	0.14	0.15	0.14	0.16	0.14	0.16
130	0.	0.09	0.15	0.11	0.14	0.16	0.14	0.	0.13
140	0.	0.	0.08	0.13	0.11	0.07	0.10	0.	0.13
150	0.	0.	0.	0.09	0.09	0.14	0.14	0.	0.17
160	0.	0.	0.	0.	0.09	0.11	0.10	0.	0.13
170	0.	0.	0.	0.	0.	0.	0.14	0.	0.19
180	0.	0.	0.	0.	0.	0.	0.	0.	0.

RADIANCE VALUES ARE IN MICROWATTS. CLEAR VA AND SCA ARE IN DEGREES.

TABLE 121

NUMBER OF OBSERVATIONS AS A FUNCTION OF SUN AZIMUTH

FILTER 11 INSOL ANGLE 30.0 DEG.

VA / SA	0	10	20	30	40	50	60	70	80
0	0.	0.	0.	0.	0.	525.	0.	285.	300.
10	0.	0.	0.	0.	0.	1050.	0.	600.	885.
20	0.	0.	0.	0.	0.	1425.	0.	583.	525.
30	0.	0.	0.	0.	0.	1170.	120.	585.	210.
40	0.	0.	0.	840.	0.	840.	120.	1466.	176.
50	0.	0.	0.	1050.	0.	375.	0.	1360.	180.
60	0.	0.	0.	660.	0.	285.	0.	525.	270.
70	0.	0.	0.	525.	0.	270.	0.	540.	1185.
80	0.	0.	0.	465.	0.	315.	0.	405.	405.
90	0.	0.	0.	375.	0.	270.	0.	330.	270.
100	0.	0.	0.	330.	0.	255.	0.	315.	270.
110	0.	0.	0.	315.	0.	270.	0.	255.	300.
120	0.	0.	0.	357.	0.	225.	0.	315.	210.
130	0.	0.	0.	1079.	0.	180.	120.	390.	137.
140	0.	0.	0.	630.	0.	150.	630.	570.	151.
150	0.	0.	0.	570.	0.	180.	330.	570.	105.
160	0.	0.	0.	480.	0.	225.	279.	525.	0.
170	0.	0.	0.	555.	0.	450.	298.	1019.	202.
180	0.	0.	0.	255.	0.	435.	165.	465.	120.

VA AND SA ARE IN DEGREES. CLOUDS

TABLE 122

IR MEAN RADIANCE AS A FUNCTION OF SUN AZIMUTH

FILTER 11 INSOL ANGLE 30.0 DEG.

VA / SA	0	10	20	30	40	50	60	70	80
0	0.	0.	0.	0.	0.	14.82	0.	8.65	9.63
10	0.	0.	0.	0.	0.	16.09	0.	8.62	9.62
20	0.	0.	0.	0.	0.	14.33	0.	8.65	9.75
30	0.	0.	0.	0.	0.	11.41	12.88	8.38	8.90
40	0.	0.	0.	17.48	0.	12.52	13.92	7.62	9.26
50	0.	0.	0.	14.77	0.	15.89	0.	7.98	9.30
60	0.	0.	0.	15.70	0.	14.23	0.	7.51	8.72
70	0.	0.	0.	16.85	0.	14.14	0.	8.02	8.53
80	0.	0.	0.	18.29	0.	15.95	0.	8.99	8.68
90	0.	0.	0.	19.11	0.	16.63	0.	9.58	8.26
100	0.	0.	0.	19.48	0.	17.16	0.	10.22	8.22
110	0.	0.	0.	18.28	0.	16.35	0.	10.08	8.23
120	0.	0.	0.	16.57	0.	17.88	0.	10.00	8.87
130	0.	0.	0.	20.71	0.	19.14	11.46	10.15	7.51
140	0.	0.	0.	20.72	0.	19.66	15.95	9.15	9.25
150	0.	0.	0.	20.40	0.	17.28	15.36	9.57	10.01
160	0.	0.	0.	20.23	0.	19.80	16.43	10.13	0.
170	0.	0.	0.	21.01	0.	20.78	16.92	10.25	9.78
180	0.	0.	0.	20.91	0.	20.22	16.93	10.11	9.24

RADIANCE VALUES ARE IN MICROWATTS. CLOUDS VA AND SA ARE IN DEGREES.

TABLE 123

IR RMS FLUCTUATION AS A FUNCTION OF SUN AZIMUTH

FILTER 11 INSOL ANGLE 30.0 DEG.

VA / SA	0	10	20	30	40	50	60	70	80
0	0.	0.	0.	0.	0.	1.78	0.	1.07	0.26
10	0.	0.	0.	0.	0.	1.94	0.	1.14	0.37
20	0.	0.	0.	0.	0.	2.15	0.	1.29	0.29
30	0.	0.	0.	0.	0.	2.62	1.55	1.26	0.77
40	0.	0.	0.	1.23	0.	3.64	1.84	1.14	0.96
50	0.	0.	0.	3.52	0.	3.33	0.	0.80	0.92
60	0.	0.	0.	2.80	0.	4.36	0.	1.03	0.51
70	0.	0.	0.	2.22	0.	3.06	0.	1.42	0.35
80	0.	0.	0.	1.46	0.	3.41	0.	0.40	0.29
90	0.	0.	0.	1.61	0.	3.28	0.	0.49	0.37
100	0.	0.	0.	3.05	0.	2.89	0.	0.53	0.71
110	0.	0.	0.	3.27	0.	3.72	0.	0.60	1.46
120	0.	0.	0.	3.99	0.	3.11	0.	0.82	1.92
130	0.	0.	0.	3.54	0.	0.88	0.90	1.35	0.43
140	0.	0.	0.	3.06	0.	0.66	1.19	1.40	0.78
150	0.	0.	0.	3.13	0.	3.02	0.84	0.97	0.53
160	0.	0.	0.	3.03	0.	1.83	1.04	0.90	0.
170	0.	0.	0.	1.70	0.	1.24	0.60	1.22	0.66
180	0.	0.	0.	1.56	0.	0.40	0.70	1.21	0.35

RADIANCE VALUES ARE IN MICROWATTS. CLOUDS VA AND SA ARE IN DEGREES.

TABLE 124

NUMBER OF OBSERVATIONS AS A FUNCTION OF SCATTERING ANGLE

FILTER 11 INSOL ANGLE 30.0 DEG.

SCA \ VA	0	10	20	30	40	50	60	70	80
0	0.	0.	0.	0.	0.	0.	0.	0.	0.
10	0.	0.	0.	0.	0.	0.	0.	0.	0.
20	0.	0.	0.	0.	0.	0.	0.	0.	0.
30	0.	0.	0.	0.	0.	0.	0.	0.	0.
40	0.	0.	0.	0.	0.	0.	0.	0.	0.
50	0.	0.	0.	0.	0.	0.	0.	0.	0.
60	0.	0.	0.	0.	0.	0.	0.	0.	0.
70	0.	0.	0.	0.	0.	0.	0	0.	0.
80	0.	0.	0.	0.	0.	0.	0.	1994.	2153.
90	0.	0.	0.	0.	0.	0.	0.	3635.	1485.
100	0.	0.	0.	0.	0.	2130.	450.	1020.	855.
110	0.	0.	0.	0.	0.	3315.	240.	660.	647.
120	0.	0.	0.	0.	0.	885.	195.	1200.	538.
130	0.	0.	0.	2715.	0.	630.	255.	2564.	310.
140	0.	0.	0.	1305.	0.	510.	1552.	0.	0.
150	0.	0.	0.	912.	0.	1410.	150.	0.	0.
160	0.	165.	0.	1859.	0.	0.	0.	0.	0.
170	0.	0.	0.	1290.	0.	0.	0.	0.	0.
180	0.	0.	0.	450.	0.	0.	0.	0.	0.

VA AND SCA ARE IN DEGREES. CLOUDS

TABLE 125

IR MEAN RADIANCE AS A FUNCTION OF SCATTERING ANGLE

FILTER 11 INSOL ANGLE 30.0 DEG.

VA / SCA	0	10	20	30	40	50	60	70	80
0	0.	0.	0.	0.	0.	0.	0.	0.	0.
10	0.	0.	0.	0.	0.	0.	0.	0.	0.
20	0.	0.	0.	0.	0.	0.	0.	0.	0.
30	0.	0.	0.	0.	0.	0.	0.	0.	0.
40	0.	0.	0.	0.	0.	0.	0.	0.	0.
50	0.	0.	0.	0.	0.	0.	0.	0.	0.
60	0.	0.	0.	0.	0.	0.	0.	0.	0.
70	0.	0.	0.	0.	0.	0.	0.	0.	0.
80	0.	0.	0.	0.	0.	0.	0.	8.58	9.57
90	0.	0.	0.	0.	0.	0.	0.	7.72	8.59
100	0.	0.	0.	0.	0.	15.59	13.53	9.04	8.50
110	0.	0.	0.	0.	0.	13.08	15.15	10.11	8.23
120	0.	0.	0.	0.	0.	13.91	10.33	9.57	9.23
130	0.	0.	0.	15.92	0.	17.19	11.03	10.05	9.62
140	0.	0.	0.	18.18	0.	18.01	16.07	0.	0.
150	0.	0.	0.	17.79	0.	19.94	17.00	0.	0.
160	0.	19.04	0.	20.62	0.	0.	0.	0.	0.
170	0.	0.	0.	20.59	0.	0.	0.	0.	0.
180	0.	0.	0.	21.23	0.	0.	0.	0.	0.

RADIANCE VALUES ARE IN MICROWATTS. CLOUDS VA AND SCA ARE IN DEGREES.

TABLE 126

RMS FLUCTUATION AS A FUNCTION OF SCATTERING ANGLE

FILTER 11 INSOL ANGLE 30.0 DEG.

VA / SCA	0	10	20	30	40	50	60	70	80
0	0.	0.	0.	0.	0.	0.	0.	0.	0.
10	0.	0.	0.	0.	0.	0.	0.	0.	0.
20	0.	0.	0.	0.	0.	0.	0.	0.	0.
30	0.	0.	0.	0.	0.	0.	0.	0.	0.
40	0.	0.	0.	0.	0.	0.	0.	0.	0.
50	0.	0.	0.	0.	0.	0.	0.	0.	0.
60	0.	0.	0.	0.	0.	0.	0.	0.	0.
70	0.	0.	0.	0.	0.	0.	0.	0.	0.
80	0.	0.	0.	0.	0.	0.	0.	1.22	0.51
90	0.	0.	0.	0.	0.	0.	0.	1.05	0.49
100	0.	0.	0.	0.	0.	1.97	1.59	0.77	0.37
110	0.	0.	0.	0.	0.	3.35	1.09	0.59	1.40
120	0.	0.	0.	0.	0.	3.67	1.23	1.29	1.25
130	0.	0.	0.	2.94	0.	3.17	1.23	1.08	0.57
140	0.	0.	0.	2.09	0.	2.73	1.20	0.	0.
150	0.	0.	0.	3.79	0.	1.78	0.67	0.	0.
160	0.	3.55	0.	3.38	0.	0.	0.	0.	0.
170	0.	0.	0.	2.68	0.	0.	0.	0.	0.
180	0.	0.	0.	1.34	0.	0.	0.	0.	0.

RADIANCE VALUES ARE IN MICROWATTS CLOUDS VA AND SCA ARE IN DEGREES.

TABLE 127

NUMBER OF OBSERVATIONS AS A FUNCTION OF SUN AZIMUTH

FILTER 11 INSOL ANGLE 40.0 DEG.

VA / SA	0	10	20	30	40	50	60	70	80
0	0.	0.	0.	120.	0.	0.	0.	120.	0.
10	0.	0.	0.	195.	0.	117.	0.	120.	0.
20	0.	0.	0.	150.	0.	135.	135.	180.	0.
30	0.	0.	0.	180.	0.	0.	120.	195.	0.
40	0.	0.	0.	180.	0.	0.	0.	135.	0.
50	0.	0.	0.	180.	0.	105.	135.	165.	0.
60	0.	0.	0.	165.	0.	0.	135.	120.	105.
70	0.	0.	0.	180.	0.	105.	165.	135.	735.
80	0.	0.	0.	165.	0.	0.	150.	195.	225.
90	0.	0.	0.	135.	0.	0.	165.	120.	225.
100	0.	0.	0.	180.	0.	105.	150.	165.	180.
110	0.	0.	0.	180.	0.	0.	150.	165.	240.
120	0.	0.	0.	150.	0.	465.	285.	180.	230.
130	0.	0.	0.	210.	0.	525.	405.	135.	240.
140	0.	0.	0.	180.	0.	270.	930.	165.	200.
150	0.	0.	0.	180.	0.	239.	0.	240.	210.
160	0.	0.	0.	165.	0.	195.	0.	270.	225.
170	0.	0.	0.	135.	0.	210.	0.	225.	150.
180	0.	0.	0.	0.	0.	105.	0.	0.	105.

VA AND SA ARE IN DEGREES. CLOUDS

TABLE 128

IR MEAN RADIANCE AS A FUNCTION OF SUN AZIMUTH

FILTER 11 INSOL ANGLE 40.0 DEG.

VA SA	0	10	20	30	40	50	60	70	80
0	0.	0.	0.	21.10	0.	0.	0.	14.31	0.
10	0.	0.	0.	17.77	0.	18.21	0.	14.21	0.
20	0.	0.	0.	16.68	0.	19.15	18.10	14.00	0.
30	0.	0.	0.	18.97	0.	0.	18.39	13.79	0.
40	0.	0.	0.	18.83	0.	0.	0.	13.97	0.
50	0.	0.	0.	18.47	0.	18.12	18.03	13.74	0.
60	0.	0.	0.	17.69	0.	0.	16.99	12.92	13.21
70	0.	0.	0.	17.76	0.	18.09	17.46	12.97	13.97
80	0.	0.	0.	16.76	0.	0.	16.58	13.44	13.65
90	0.	0.	0.	17.26	0.	0.	14.14	13.46	13.71
100	0.	0.	0.	17.79	0.	16.20	16.90	13.45	13.67
110	0.	0.	0.	17.92	0.	0.	15.76	13.58	12.99
120	0.	0.	0.	19.44	0.	17.51	16.80	13.81	12.84
130	0.	0.	0.	19.95	0.	19.01	17.53	14.27	13.93
140	0.	0.	0.	21.49	0.	19.98	18.99	14.53	14.48
150	0.	0.	0.	22.34	0.	19.76	0.	14.46	14.52
160	0.	0.	0.	22.37	0.	18.34	0.	14.47	14.60
170	0.	0.	0.	22.16	0.	17.75	0.	14.58	14.68
180	0.	0.	0.	0.	0.	18.47	0.	0.	14.78

RADIANCE VALUES ARE IN MICROWATTS. CLOUDS VA AND SA ARE IN DEGREES.

TABLE 129

IR RMS FLUCTUATION AS A FUNCTION OF SUN AZIMUTH

FILTER 11 INSOL ANGLE 40.0 DEG.

VA / SA	0	10	20	30	40	50	60	70	80
0	0.	0.	0.	1.79	0.	0.	0.	0.41	0.
10	0.	0.	0.	2.77	0.	1.57	0.	0.64	0.
20	0.	0.	0.	2.31	0.	1.75	0.84	0.46	0.
30	0.	0.	0.	4.12	0.	0.	0.47	0.51	0.
40	0.	0.	0.	3.13	0.	0.	0.	0.72	0.
50	0.	0.	0.	1.37	0.	2.33	0.34	0.76	0.
60	0.	0.	0.	0.91	0.	0.	0.63	0.63	0.52
70	0.	0.	0.	1.30	0.	0.99	0.63	0.66	0.58
80	0.	0.	0.	0.81	0.	0.	1.87	0.44	0.64
90	0.	0.	0.	1.22	0.	0.	1.92	0.37	0.38
100	0.	0.	0.	1.29	0.	1.45	0.75	0.66	0.67
110	0.	0.	0.	1.23	0.	0.	0.48	1.88	0.86
120	0.	0.	0.	2.03	0.	1.54	0.57	1.17	1.26
130	0.	0.	0.	1.59	0.	1.28	1.03	0.41	0.51
140	0.	0.	0.	1.74	0.	1.44	0.57	0.77	0.66
150	0.	0.	0.	0.94	0.	2.60	0.	0.25	0.25
160	0.	0.	0.	0.89	0.	2.30	0.	0.22	0.22
170	0.	0.	0.	0.92	0.	1.30	0.	0.31	0.22
180	0.	0.	0.	0.	0.	0.85	0.	0.	0.24

RADIANCE VALUES ARE IN MICROWATTS. CLOUDS VA AND SA ARE IN DEGREES.

TABLE 130

NUMBER OF OBSERVATIONS AS A FUNCTION OF SCATTERING ANGLE

FILTER 11 INSOL ANGLE 40.0 DEG.

VA / SCA	0	10	20	30	40	50	60	70	80
0	0.	0.	0.	0.	0.	0.	0.	0.	0.
10	0.	0.	0.	0.	0.	0.	0.	0.	0.
20	0.	0.	0.	0.	0.	0.	0.	0.	0.
30	0.	0.	0.	0.	0.	0.	0.	0.	0.
40	0.	0.	0.	0.	0.	0.	0.	0.	0.
50	0.	0.	0.	0.	0.	0.	0.	0.	0.
60	0.	0.	0.	0.	0.	0.	0.	0.	0.
70	0.	0.	0.	0.	0.	0.	0.	390.	0.
80	0.	0.	0.	0.	0.	0.	0.	525.	0.
90	0.	0.	0.	0.	0.	0.	390.	255.	840.
100	0.	0.	0.	0.	0.	477.	360.	315.	450.
110	0.	0.	0.	0.	0.	240.	345.	285.	410.
120	0.	0.	0.	885.	0.	225.	270.	330.	470.
130	0.	0.	0.	585.	0.	120.	465.	525.	660.
140	0.	0.	0.	390.	0.	945.	1230.	495.	210.
150	0.	0.	0.	375.	0.	509.	0.	0.	0.
160	0.	0.	0.	420.	0.	555.	0.	0.	0.
170	0.	0.	0.	375.	0.	0.	0.	0.	0.
180	0.	0.	0.	0.	0.	0.	0.	0.	0.

VA AND SCA ARE IN DEGREES. CLOUDS

TABLE 131

IR MEAN RADIANCE AS A FUNCTION OF SCATTERING ANGLE

FILTER 11 INSOL ANGLE 40.0 DEG.

VA / SCA	0	10	20	30	40	50	60	70	80
0	0.	0.	0.	0.	0.	0.	0.	0.	0.
10	0.	0.	0.	0.	0.	0.	0.	0.	0.
20	0.	0.	0.	0.	0.	0.	0.	0.	0.
30	0.	0.	0.	0.	0.	0.	0.	0.	0.
40	0.	0.	0.	0.	0.	0.	0.	0.	0.
50	0.	0.	0.	0.	0.	0.	0.	0.	0.
60	0.	0.	0.	0.	0.	0.	0.	0.	0.
70	0.	0.	0.	0.	0.	0.	0.	14.06	0.
80	0.	0.	0.	0.	0.	0.	0.	13.90	0.
90	0.	0.	0.	0.	0.	0.	18.07	12.95	13.90
100	0.	0.	0.	0.	0.	18.72	17.40	13.45	13.65
110	0.	0.	0.	0.	0.	18.64	15.65	13.31	13.23
120	0.	0.	0.	18.54	0.	16.25	16.57	14.03	13.44
130	0.	0.	0.	17.56	0.	14.64	16.74	14.49	14.56
140	0.	0.	0.	17.61	0.	18.19	18.66	14.56	14.76
150	0.	0.	0.	19.07	0.	19.96	0.	0.	0.
160	0.	0.	0.	21.43	0.	18.18	0.	0.	0.
170	0.	0.	0.	22.33	0.	0.	0.	0.	0.
180	0.	0.	0.	0.	0.	0.	0.	0.	0.

RADIANCE VALUES ARE IN MICROWATTS. CLOUDS VA AND SCA ARE IN DEGREES.

TABLE 132

RMS FLUCTUATION AS A FUNCTION OF SCATTERING ANGLE

FILTER 11 INSOL ANGLE 40.0 DEG.

VA / SCA	0	10	20	30	40	50	60	70	80
0	0.	0.	0.	0.	0.	0.	0.	0.	0.
10	0.	0.	0.	0.	0.	0.	0.	0.	0.
20	0.	0.	0.	0.	0.	0.	0.	0.	0.
30	0.	0.	0.	0.	0.	0.	0.	0.	0.
40	0.	0.	0.	0.	0.	0.	0.	0.	0.
50	0.	0.	0.	0.	0.	0.	0.	0.	0.
60	0.	0.	0.	0.	0.	0.	0.	0.	0.
70	0.	0.	0.	0.	0.	0.	0.	0.40	0.
80	0.	0.	0.	0.	0.	0.	0.	0.74	0.
90	0.	0.	0.	0.	0.	0.	0.73	0.65	0.61
100	0.	0.	0.	0.	0.	1.95	0.69	0.42	0.55
110	0.	0.	0.	0.	0.	1.62	2.37	0.93	0.89
120	0.	0.	0.	3.20	0.	1.46	0.92	1.33	1.09
130	0.	0.	0.	1.17	0.	1.87	0.75	0.54	0.30
140	0.	0.	0.	1.24	0.	1.73	0.92	0.27	0.22
150	0.	0.	0.	1.83	0.	1.84	0.	0.	0.
160	0.	0.	0.	1.79	0.	1.86	0.	0.	0.
170	0.	0.	0.	0.92	0.	0.	0.	0.	0.
180	0.	0.	0.	0.	0.	0.	0.	0.	0.

RADIANCE VALUES ARE IN MICROWATTS. CLOUDS VA AND SCA ARE IN DEGREES.

TABLE 133

NUMBER OF OBSERVATIONS AS A FUNCTION OF SUN AZIMUTH

FILTER 11 INSOL ANGLE 50.0 DEG.

VA / SA	0	10	20	30	40	50	60	70	80
0	0.	0.	0.	0.	375.	0.	0.	0.	450.
10	0.	0.	0.	0.	780.	0.	134.	165.	914.
20	0.	120.	120.	105.	869.	120.	135.	315.	720.
30	105.	0.	135.	165.	720.	165.	135.	435.	689.
40	0.	0.	165.	165.	630.	165.	135.	435.	630.
50	0.	0.	0.	0.	570.	0.	0.	375.	450.
60	0.	0.	0.	105.	645.	0.	0.	405.	555.
70	0.	0.	0.	0.	570.	0.	0.	465.	420.
80	0.	0.	0.	120.	330.	0.	0.	285.	404.
90	0.	0.	0.	0.	0.	0.	0.	375.	375.
100	0.	0.	105.	0.	329.	0.	105.	315.	195.
110	0.	0.	0.	0.	495.	0.	0.	315.	165.
120	0.	0.	105.	0.	675.	0.	0.	750.	0.
130	0.	105.	0.	0.	525.	0.	0.	675.	0.
140	0.	0.	0.	0.	705.	0.	0.	660.	0.
150	0.	105.	150.	120.	810.	0.	0.	900.	0.
160	0.	150.	135.	120.	750.	105.	180.	989.	150.
170	0.	104.	0.	0.	885.	0.	0.	1020.	134.
180	0.	0.	0.	0.	420.	0.	0.	435.	0.

VA AND SA ARE IN DEGREES. CLOUDS

TABLE 134

IR MEAN RADIANCE AS A FUNCTION OF SUN AZIMUTH

FILTER 11 INSOL ANGLE 50.0 DEG.

VA / SA	0	10	20	30	40	50	60	70	80
0	0.	0.	0.	0.	12.44	0.	0.	0.	10.44
10	0.	0.	0.	0.	12.51	0.	9.02	13.22	10.49
20	0.	10.21	9.69	9.83	13.18	9.50	7.02	13.24	10.43
30	10.17	0.	9.50	8.80	12.67	7.84	7.53	11.54	9.53
40	0.	0.	10.18	9.08	13.64	8.32	7.77	12.82	9.22
50	0.	0.	0.	0.	14.21	0.	0.	13.35	8.93
60	0.	0.	0.	8.99	14.67	0.	0.	13.92	9.21
70	0.	0.	0.	0.	14.73	0.	0.	13.69	9.19
80	0.	0.	0.	10.61	14.90	0.	0.	12.45	8.48
90	0.	0.	0.	0.	0.	0.	0.	11.52	8.29
100	0.	0.	11.15	0.	12.43	0.	8.78	11.53	6.53
110	0.	0.	0.	0.	14.03	0.	0.	10.09	6.09
120	0.	0.	11.10	0.	14.83	0.	0.	10.92	0.
130	0.	10.47	0.	0.	14.80	0.	0.	11.14	0.
140	0.	0.	0.	0.	14.85	0.	0.	11.72	0.
150	0.	10.14	10.37	10.15	14.66	0.	0.	10.98	0.
160	0.	10.25	10.32	10.04	14.85	9.13	7.86	10.88	3.34
170	0.	10.35	0.	0.	16.01	0.	0.	11.36	3.51
180	0.	0.	0.	0.	16.13	0.	0.	11.39	0.

RADIANCE VALUES ARE IN MICROWATTS. CLOUDS VA AND SA ARE IN DEGREES.

TABLE 135

IR RMS FLUCTUATION AS A FUNCTION OF SUN AZIMUTH

FILTER 11 INSOL ANGLE 50.0 DEG.

VA / SA	0	10	20	30	40	50	60	70	80
0	0.	0.	0.	0.	1.58	0.	0.	0.	2.19
10	0.	0.	0.	0.	1.64	0.	2.74	1.90	2.02
20	0.	0.65	1.61	1.42	2.46	2.87	0.38	2.82	2.15
30	0.67	0.	0.73	0.51	3.08	0.63	0.84	3.94	2.05
40	0.	0.	1.43	0.46	3.05	0.50	0.93	3.84	2.16
50	0.	0.	0.	0.	2.50	0.	0.	3.53	2.14
60	0.	0.	0.	0.59	3.11	0.	0.	2.89	2.30
70	0.	0.	0.	0.	2.88	0.	0.	3.01	1.84
80	0.	0.	0.	2.91	2.96	0.	0.	3.02	2.45
90	0.	0.	0.	0.	0.	0.	0.	2.51	2.76
100	0.	0.	2.85	0.	2.16	0.	2.35	2.51	1.86
110	0.	0.	0.	0.	2.48	0.	0.	1.77	2.01
120	0.	0.	1.28	0.	2.20	0.	0.	1.88	0.
130	0.	0.35	0.	0.	2.06	0.	0.	2.48	0.
140	0.	0.	0.	0.	2.12	0.	0.	2.22	0.
150	0.	0.25	0.33	0.34	2.61	0.	0.	2.64	0.
160	0.	0.25	0.29	0.60	2.74	0.82	0.53	2.57	1.37
170	0.	0.27	0.	0.	2.04	0.	0.	1.99	1.54
180	0.	0.	0.	0.	2.03	0.	0.	2.01	0.

RADIANCE VALUES ARE IN MICROWATTS. CLOUDS VA AND SA ARE IN DEGREES.

TABLE 136

NUMBER OF OBSERVATIONS AS A FUNCTION OF SCATTERING ANGLE

FILTER 11 INSOL ANGLE 50.0 DEG.

VA / SCA	0	10	20	30	40	50	60	70	80
0	0.	0.	0.	0.	0.	0.	0.	0.	0.
10	0.	0.	0.	0.	0.	0.	0.	0.	0.
20	0.	0.	0.	0.	0.	0.	0.	0.	0.
30	0.	0.	0.	0.	0.	0.	0.	0.	0.
40	0.	0.	0.	0.	0.	0.	0.	0.	0.
50	0.	0.	0.	0.	0.	0.	0.	0.	1979.
60	0.	0.	0.	0.	0.	0.	0.	165.	1439.
70	0.	0.	0.	0.	0.	0.	224.	1065.	825.
80	0.	0.	0.	0.	0.	210.	405.	780.	660.
90	0.	0.	0.	0.	255.	435.	150.	660.	539.
100	0.	0.	0.	255.	3539.	105.	105.	510.	330.
110	0.	0.	285.	450.	1350.	135.	0.	450.	214.
120	0.	315.	540.	210.	465.	105.	135.	600.	0.
130	615.	576.	239.	150.	650.	0.	0.	1050.	105.
140	161.	614.	195.	135.	930.	105.	0.	1095.	208.
150	0.	120.	420.	150.	1050.	0.	135.	2114.	165.
160	0.	0.	0.	267.	1155.	165.	225.	840.	0.
170	0.	0.	0.	0.	1710.	105.	0.	0.	0.
180	0.	0.	0.	0.	0.	0.	0.	0.	0.

VA AND SCA ARE IN DEGREES. CLOUDS

TABLE 137

IR MEAN RADIANCE AS A FUNCTION OF SCATTERING ANGLE

FILTER 11 INSOL ANGLE 50.0 DEG.

VA / SCA	0	10	20	30	40	50	60	70	80
0	0.	0.	0.	0.	0.	0.	0.	0.	0.
10	0.	0.	0.	0.	0.	0.	0.	0.	0.
20	0.	0.	0.	0.	0.	0.	0.	0.	0.
30	0.	0.	0.	0.	0.	0.	0.	0.	0.
40	0.	0.	0.	0.	0.	0.	0.	0.	0.
50	0.	0.	0.	0.	0.	0.	0.	0.	10.66
60	0.	0.	0.	0.	0.	0.	0.	9.61	9.31
70	0.	0.	0.	0.	0.	0.	8.37	12.79	9.12
80	0.	0.	0.	0.	0.	8.50	7.84	13.46	8.69
90	0.	0.	0.	0.	8.67	8.67	8.03	13.65	8.64
100	0.	0.	0.	9.55	13.29	8.19	7.30	12.12	7.22
110	0.	0.	9.57	9.17	14.67	8.14	0.	11.45	5.78
120	0.	10.94	10.55	9.96	14.41	9.35	8.67	10.47	0.
130	12.01	13.36	11.21	9.50	13.54	0.	0.	11.07	3.14
140	10.43	10.45	10.72	9.83	14.66	9.10	0.	11.37	2.84
150	0.	10.37	10.40	10.05	14.97	0.	7.81	11.03	3.90
160	0.	0.	0.	10.48	14.53	8.85	7.89	11.50	0.
170	0.	0.	0.	0.	15.89	9.65	0.	0.	0.
180	0.	0.	0.	0.	0.	0.	0.	0.	0.

RADIANCE VALUES ARE IN MICROWATTS. CLOUDS VA AND SCA ARE IN DEGREES.

TABLE 138

RMS FLUCTUATION AS A FUNCTION OF SCATTERING ANGLE

FILTER 11 INSOL ANGLE 50.0 DEG.

VA / SCA	0	10	20	30	40	50	60	70	80
0	0.	0.	0.	0.	0.	0.	0.	0.	0.
10	0.	0.	0.	0.	0.	0.	0.	0.	0.
20	0.	0.	0.	0.	0.	0.	0.	0.	0.
30	0.	0.	0.	0.	0.	0.	0.	0.	0.
40	0.	0.	0.	0.	0.	0.	0.	0.	0.
50	0.	0.	0.	0.	0.	0.	0.	0.	2.03
60	0.	0.	0.	0.	0.	0.	0.	2.82	2.04
70	0.	0.	0.	0.	0.	0.	2.47	3.48	2.06
80	0.	0.	0.	0.	0.	2.19	1.66	3.49	2.37
90	0.	0.	0.	0.	1.88	1.66	1.01	2.97	2.39
100	0.	0.	0.	2.13	2.36	1.17	1.06	2.55	2.26
110	0.	0.	2.12	0.90	2.84	1.09	0.	2.35	2.42
120	0.	1.62	1.86	2.43	3.05	2.41	2.09	1.75	0.
130	2.27	3.23	2.66	0.72	2.34	0.	0.	2.34	1.18
140	2.38	0.81	1.06	0.58	2.29	0.40	0.	2.47	1.29
150	0.	0.24	0.30	0.48	2.03	0.	0.65	2.40	1.33
160	0.	0.	0.	1.25	2.66	0.80	0.52	2.08	0.
170	0.	0.	0.	0.	2.21	0.57	0.	0.	0.
180	0.	0.	0.	0.	0.	0.	0.	0.	0.

RADIANCE VALUES ARE IN MICROWATTS. CLOUDS VA AND SCA ARE IN DEGREES.

TABLE 139

NUMBER OF OBSERVATIONS AS A FUNCTION OF SUN AZIMUTH

FILTER 11 INSOL ANGLE 60.0 DEG.

VA / SA	0	10	20	30	40	50	60	70	80
0	0.	0.	0.	135.	760.	0.	0.	0.	255.
10	0.	0.	0.	0.	1080.	0.	0.	0.	492.
20	0.	105.	135.	120.	1199.	0.	0.	164.	509.
30	0.	0.	0.	120.	867.	0.	0.	134.	510.
40	0.	0.	0.	0.	479.	120.	180.	238.	642.
50	0.	0.	0.	132.	389.	0.	0.	282.	404.
60	0.	135.	0.	165.	480.	0.	0.	356.	300.
70	0.	150.	120.	150.	420.	105.	120.	429.	314.
80	0.	0.	0.	105.	510.	180.	150.	433.	389.
90	0.	0.	0.	0.	494.	0.	0.	432.	345.
100	0.	0.	0.	0.	585.	0.	0.	778.	285.
110	0.	105.	105.	0.	659.	0.	0.	599.	269.
120	0.	105.	105.	120.	582.	0.	0.	315.	195.
130	0.	0.	0.	0.	689.	0.	132.	330.	329.
140	0.	0.	0.	0.	614.	0.	0.	285.	270.
150	0.	0.	0.	135.	628.	120.	105.	465.	298.
160	0.	120.	135.	0.	660.	0.	0.	465.	328.
170	0.	0.	0.	105.	570.	0.	0.	450.	283.
180	0.	0.	0.	0.	300.	0.	0.	225.	120.

VA AND SA ARE IN DEGREES. CLOUDS

TABLE 140

IR MEAN RADIANCE AS A FUNCTION OF SUN AZIMUTH

FILTER 11 INSOL ANGLE 60.0 DEG.

VA / SA	0	10	20	30	40	50	60	70	80
0	0.	0.	0.	10.32	10.86	0.	0.	0.	7.22
10	0.	0.	0.	0.	10.99	0.	0.	0.	6.62
20	0.	6.52	6.49	5.59	10.44	0.	0.	8.58	6.63
30	0.	0.	0.	6.82	10.27	0.	0.	7.11	6.57
40	0.	0.	0.	0.	9.98	5.59	5.22	6.67	6.74
50	0.	0.	0.	7.51	9.76	0.	0.	6.82	6.32
60	0.	5.68	0.	7.20	9.36	0.	0.	7.88	5.54
70	0.	5.91	5.96	6.45	9.83	5.32	5.18	7.02	5.82
80	0.	0.	0.	6.22	9.83	5.43	4.91	7.00	5.19
90	0.	0.	0.	0.	11.11	0.	0.	7.64	5.95
100	0.	0.	0.	0.	11.14	0.	0.	7.72	6.02
110	0.	5.26	5.53	0.	10.80	0.	0.	7.50	6.39
120	0.	5.04	5.24	6.62	11.03	0.	0.	7.16	5.43
130	0.	0.	0.	0.	11.01	0.	5.26	6.67	6.05
140	0.	0.	0.	0.	10.64	0.	0.	7.42	6.48
150	0.	0.	0.	7.97	10.67	5.56	5.51	7.55	6.01
160	0.	5.46	5.76	0.	10.13	0.	0.	7.30	7.06
170	0.	0.	0.	5.76	10.12	0.	0.	7.24	7.44
180	0.	0.	0.	0.	10.77	0.	0.	7.31	7.59

RADIANCE VALUES ARE IN MICROWATTS. CLOUDS VA AND SA ARE IN DEGREES.

TABLE 141

IR RMS FLUCTUATION AS A FUNCTION OF SUN AZIMUTH

FILTER 11 INSOL ANGLE 60.0 DEG.

VA / SA	0	10	20	30	40	50	60	70	80
0	0.	0.	0.	1.86	1.08	0.	0.	0.	1.62
10	0.	0.	0.	0.	1.05	0.	0.	0.	1.70
20	0.	0.62	0.46	0.65	1.79	0.	0.	1.31	1.33
30	0.	0.	0.	2.40	1.86	0.	0.	1.35	1.44
40	0.	0.	0.	0.	1.91	1.76	2.07	2.06	1.34
50	0.	0.	0.	2.14	1.97	0.	0.	2.13	1.59
60	0.	0.41	0.	2.68	2.27	0.	0.	1.50	2.36
70	0.	0.39	0.30	1.50	2.26	0.52	0.33	1.80	1.88
80	0.	0.	0.	0.50	2.38	0.62	0.41	1.69	2.35
90	0.	0.	0.	0.	1.49	0.	0.	1.52	2.00
100	0.	0.	0.	0.	1.77	0.	0.	1.05	1.70
110	0.	0.58	0.43	0.	2.39	0.	0.	0.86	1.20
120	0.	0.34	0.22	2.30	2.26	0.	0.	1.92	2.90
130	0.	0.	0.	0.	2.38	0.	1.56	1.79	2.63
140	0.	0.	0.	0.	2.19	0.	0.	1.69	2.37
150	0.	0.	0.	3.05	2.24	0.15	0.25	0.98	1.99
160	0.	0.54	0.20	0.	2.24	0.	0.	1.25	2.31
170	0.	0.	0.	0.13	1.94	0.	0.	1.30	2.04
180	0.	0.	0.	0.	1.72	0.	0.	1.18	1.89

RADIANCE VALUES ARE IN MICROWATTS. CLOUDS VA AND SA ARE IN DEGREES.

TABLE 142

NUMBER OF OBSERVATIONS AS A FUNCTION OF SCATTERING ANGLE

FILTER 11 INSOL ANGLE 60.0 DEG.

VA / SCA	0	10	20	30	40	50	60	70	80
0	0.	0.	0.	0.	0.	0.	0.	0.	0.
10	0.	0.	0.	0.	0.	0.	0.	0.	0.
20	0.	0.	0.	0.	0.	0.	0.	0.	0.
30	0.	0.	0.	0.	0.	0.	0.	0.	0.
40	0.	0.	0.	0.	0.	0.	0.	0.	267.
50	0.	0.	0.	0.	0.	0.	0.	327.	1558.
60	0.	0.	0.	0.	0.	0.	0.	327.	823.
70	0.	0.	0.	0.	0.	165.	285.	519.	464.
80	0.	0.	0.	0.	1570.	255.	105.	488.	449.
90	0.	0.	0.	449.	2829.	120.	195.	568.	449.
100	0.	0.	285.	312.	1095.	270.	120.	506.	360.
110	0.	345.	315.	285.	794.	0.	0.	1168.	299.
120	598.	570.	165.	135.	885.	0.	0.	345.	255.
130	0.	405.	300.	225.	1076.	120.	120.	360.	344.
140	0.	0.	270.	195.	1003.	0.	117.	480.	433.
150	0.	0.	0.	255.	1034.	0.	0.	675.	506.
160	0.	0.	0.	0.	1004.	0.	120.	690.	330.
170	0.	0.	0.	0.	675.	120.	0.	0.	0.
180	0.	0.	0.	0.	0.	0.	0.	0.	0.

VA AND SCA ARE IN DEGREES. CLOUDS

TABLE 143

IR MEAN RADIANCE AS A FUNCTION OF SCATTERING ANGLE

FILTER 11 INSOL ANGLE 60.0 DEG.

VA / SCA	0	10	20	30	40	50	60	70	80
0	0.	0.	0.	0.	0.	0.	0.	0.	0.
10	0.	0.	0.	0.	0.	0.	0.	0.	0
20	0.	0.	0.	0.	0.	0.	0.	0.	0.
30	0.	0.	0.	0.	0.	0.	0.	0.	0.
40	0.	0.	0.	0.	0.	0.	0.	0.	7.90
50	0.	0.	0.	0.	0.	0.	0.	8.87	6.44
60	0.	0.	0.	0.	0.	0.	0.	7.05	6.66
70	0.	0.	0.	0.	0.	5.94	5.09	7.11	5.88
80	0.	0.	0.	0.	9.89	5.13	5.31	7.68	5.62
90	0.	0.	0.	8.25	10.68	5.21	5.07	6.74	5.59
100	0.	0.	6.67	7.21	9.80	5.70	5.17	7.78	5.95
110	0.	6.54	6.12	6.62	10.31	0.	0.	7.50	6.11
120	5.83	5.64	5.70	7.70	10.98	0.	0.	7.60	5.87
130	0.	6.11	5.72	6.74	10.91	4.84	4.70	6.61	6.12
140	0.	0.	5.76	6.80	11.03	0.	5.62	7.43	6.35
150	0.	0.	0.	7.32	10.75	0.	0.	7.67	6.91
160	0.	0.	0.	0.	10.56	0.	5.49	7.28	7.28
170	0.	0.	0.	0.	10.23	6.13	0.	0.	0.
180	0.	0.	0.	0.	0.	0.	0.	0.	0.

RADIANCE VALUES ARE IN MICROWATTS. CLOUDS VA AND SCA ARE IN DEGREES.

TABLE 144

RMS FLUCTUATION AS A FUNCTION OF SCATTERING ANGLE

FILTER 11 INSOL ANGLE 60.0 DEG.

VA / SCA	0	10	20	30	40	50	60	70	80
0	0.	0.	0.	0.	0.	0.	0.	0.	0.
10	0.	0.	0.	0.	0.	0.	0.	0.	0.
20	0.	0.	0.	0.	0.	0.	0.	0.	0.
30	0.	0.	0.	0.	0.	0.	0.	0.	0.
40	0.	0.	0.	0.	0.	0.	0.	0.	2.65
50	0.	0.	0.	0.	0.	0.	0.	1.02	1.24
60	0.	0.	0.	0.	0.	0.	0.	1.72	1.28
70	0.	0.	0.	0.	0.	2.10	1.38	1.98	2.09
80	0.	0.	0.	0.	1.54	1.32	1.76	1.59	2.08
90	0.	0.	0.	2.71	1.74	0.54	0.46	1.81	2.15
100	0.	0.	1.21	2.28	2.33	1.42	0.40	1.46	1.97
110	0.	1.30	0.46	1.85	1.84	0.	0.	1.00	1.31
120	1.47	0.54	0.51	2.60	1.80	0.	0.	1.56	2.66
130	0.	2.16	1.50	2.38	2.22	0.25	0.53	1.78	2.59
140	0.	0.	0.24	2.16	2.48	0.	1.53	1.52	2.28
150	0.	0.	0.	2.77	2.23	0.	0.	0.85	2.24
160	0.	0.	0.	0.	2.28	0.	0.38	1.31	2.13
170	0.	0.	0.	0.	1.14	0.27	0.	0.	0.
180	0.	0.	0.	0.	0.	0.	0.	0.	0.

RADIANCE VALUES ARE IN MICROWATTS. CLOUDS VA AND SCA ARE IN DEGREES.

TABLE 145

NUMBER OF OBSERVATIONS AS A FUNCTION OF SUN AZIMUTH

FILTER 11 INSOL ANGLE 40.0 DEG.

VA / SA	0	10	20	30	40	50	60	70	80
0	0.	0.	360.	285.	0.	105.	390.	0.	210.
10	0.	0.	645.	675.	0.	240.	750.	0.	450.
20	0.	0.	615.	539.	0.	270.	675.	0.	480.
30	0.	0.	540.	660.	0.	315.	435.	0.	450.
40	0.	0.	420.	510.	0.	300.	300.	0.	405.
50	0.	0.	480.	360.	0.	255.	345.	0.	270.
60	0.	0.	510.	360.	0.	225.	600.	0.	270.
70	0.	0.	360.	510.	0.	135.	360.	0.	285.
80	0.	0.	255.	480.	0.	135.	285.	105.	270.
90	0.	0.	270.	435.	0.	0.	405.	180.	255.
100	0.	165.	0.	480.	0.	150.	405.	195.	285.
110	0.	300.	0.	450.	0.	240.	285.	375.	330.
120	0.	373.	0.	465.	0.	255.	420.	435.	270.
130	0.	330.	0.	510.	0.	285.	690.	465.	135.
140	0.	720.	0.	600.	0.	345.	705.	615.	165.
150	0.	734.	0.	510.	0.	270.	585.	585.	0.
160	0.	735.	0.	525.	0.	330.	600.	570.	0.
170	0.	675.	0.	523.	0.	384.	779.	645.	0.
180	0.	374.	0.	210.	0.	0.	270.	270.	0.

VA AND SA ARE IN DEGREES. CLEAR

TABLE 146

IR MEAN RADIANCE AS A FUNCTION OF SUN AZIMUTH

FILTER 11 INSOL ANGLE 40.0 DEG.

VA / SA	0	10	20	30	40	50	60	70	80
0	0.	0.	14.91	15.02	0.	14.38	13.10	0.	11.20
10	0.	0.	15.09	15.19	0.	14.07	13.15	0.	10.74
20	0.	0.	15.03	14.95	0.	14.39	13.07	0.	10.66
30	0.	0.	14.83	14.75	0.	14.27	13.22	0.	10.54
40	0.	0.	14.56	14.62	0.	13.84	13.07	0.	10.36
50	0.	0.	14.63	14.81	0.	13.74	12.78	0.	10.52
60	0.	0.	14.51	14.75	0.	13.68	12.74	0.	10.20
70	0.	0.	14.27	14.72	0.	13.63	12.38	0.	9.79
80	0.	0.	14.12	14.28	0.	13.71	12.26	10.00	9.51
90	0.	0.	14.51	14.17	0.	0.	11.95	9.76	9.26
100	0.	15.47	0.	14.06	0.	13.15	11.88	9.51	9.35
110	0.	15.23	0.	13.58	0.	12.92	11.62	9.38	9.26
120	0.	14.94	0.	13.46	0.	12.68	11.49	9.29	9.26
130	0.	14.87	0.	13.67	0.	12.95	11.56	9.27	9.08
140	0.	14.57	0.	13.54	0.	12.82	11.37	8.99	9.57
150	0.	14.55	0.	13.70	0.	12.64	11.45	8.88	0.
160	0.	14.49	0.	13.61	0.	12.52	11.32	8.78	0.
170	0.	14.38	0.	13.65	0.	12.38	11.04	8.93	0.
180	0.	14.35	0.	13.54	0.	0.	10.77	9.02	0.

RADIANCE VALUES ARE IN MICROWATTS. CLEAR VA AND SA ARE IN DEGREES.

TABLE 147

IR RMS FLUCTUATION AS A FUNCTION OF SUN AZIMUTH

FILTER 11 INSOL ANGLE 40.0 DEG.

VA / SA	0	10	20	30	40	50	60	70	80
0	0.	0.	0.54	0.51	0.	0.16	0.23	0.	0.68
10	0.	0.	0.64	0.33	0.	0.25	0.34	0.	0.50
20	0.	0.	0.78	0.43	0.	0.52	0.28	0.	0.54
30	0.	0.	0.72	0.49	0.	0.92	0.32	0.	0.53
40	0.	0.	0.70	0.37	0.	0.70	0.30	0.	0.56
50	0.	0.	0.64	0.18	0.	0.92	0.48	0.	0.33
60	0.	0.	0.68	0.31	0.	0.77	0.63	0.	0.35
70	0.	0.	0.77	0.38	0.	0.17	0.85	0.	0.55
80	0.	0.	0.44	0.48	0.	0.23	0.62	0.13	0.49
90	0.	0.	0.17	0.49	0.	0.	0.27	0.21	0.44
100	0.	0.17	0.	0.53	0.	0.31	0.27	0.29	0.16
110	0.	0.26	0.	0.41	0.	0.56	0.27	0.27	0.16
120	0.	0.22	0.	0.45	0.	0.44	0.20	0.28	0.24
130	0.	0.21	0.	0.31	0.	0.34	0.32	0.33	0.33
140	0.	0.42	0.	0.26	0.	0.24	0.37	0.27	0.31
150	0.	0.49	0.	0.39	0.	0.21	0.42	0.18	0.
160	0.	0.40	0.	0.29	0.	0.35	0.74	0.23	0.
170	0.	0.41	0.	0.26	0.	0.55	0.56	0.25	0.
180	0.	0.33	0.	0.26	0.	0.	0.25	0.20	0.

RADIANCE VALUES ARE IN MICROWATTS. CLEAR VA AND SA ARE IN DEGREES.

TABLE 148

NUMBER OF OBSERVATIONS AS A FUNCTION OF SCATTERING ANGLE

FILTER 11 INSOL ANGLE 40.0 DEG.

VA / SCA	0	10	20	30	40	50	60	70	80
0	0.	0.	0.	0.	0.	0.	0.	0.	0.
10	0.	0.	0.	0.	0.	0.	0.	0.	0.
20	0.	0.	0.	0.	0.	0.	0.	0.	0.
30	0.	0.	0.	0.	0.	0.	0.	0.	0.
40	0.	0.	0.	0.	0.	0.	0.	0.	0.
50	0.	0.	0.	0.	0.	0.	0.	0.	0.
60	0.	0.	0.	0.	0.	0.	0.	0.	0.
70	0.	0.	0.	0.	0.	0.	0.	147.	1695.
80	0.	0.	0.	0.	0.	0.	1905.	0.	750.
90	0.	0.	0.	0.	0.	0.	1035.	0.	510.
100	0.	0.	0.	0.	0.	1200.	960.	210.	435.
110	0.	0.	0.	2024.	0.	585.	585.	420.	510.
120	0.	0.	690.	1545.	0.	270.	540.	720.	420.
130	0.	0.	3180.	1215.	0.	270.	735.	1110.	210.
140	0.	180.	585.	1005.	0.	465.	1230.	1965.	0.
150	0.	2352.	0.	930.	0.	510.	1650.	0.	0.
160	0.	1919.	0.	1080.	0.	585.	644.	0.	0.
170	0.	0.	0.	1108.	0.	534.	0.	0.	0.
180	0.	0.	0.	180.	0.	0.	0.	0.	0.

VA AND SCA ARE IN DEGREES. CLEAR

TABLE 149

IR MEAN RADIANCE AS A FUNCTION OF SCATTERING ANGLE

FILTER 11 INSOL ANGLE 40.0 DEG.

VA / SCA	0	10	20	30	40	50	60	70	80
0	0.	0.	0.	0.	0.	0.	0.	0.	0.
10	0.	0.	0.	0.	0.	0.	0.	0.	0.
20	0.	0.	0.	0.	0.	0.	0.	0.	0.
30	0.	0.	0.	0.	0.	0.	0.	0.	0.
40	0.	0.	0.	0.	0.	0.	0.	0.	0.
50	0.	0.	0.	0.	0.	0.	0.	0.	0.
60	0.	0.	0.	0.	0.	0.	0.	0.	0.
70	0.	0.	0.	0.	0.	0.	0.	10.36	10.71
80	0.	0.	0.	0.	0.	0.	13.11	0.	10.35
90	0.	0.	0.	0.	0.	0.	13.04	0.	9.81
100	0.	0.	0.	0.	0.	14.17	12.59	9.89	9.34
110	0.	0.	0.	14.98	0.	13.71	12.05	9.43	9.31
120	0.	0.	15.32	14.73	0.	13.71	11.84	9.34	9.19
130	0.	0.	14.67	14.36	0.	13.14	11.54	9.08	9.53
140	0.	15.56	14.27	13.82	0.	12.75	11.45	8.89	0.
150	0.	14.77	0.	13.58	0.	12.92	11.32	0.	0.
160	0.	14.42	0.	13.62	0.	12.57	10.88	0.	0.
170	0.	0.	0.	13.63	0.	12.38	0.	0.	0.
180	0.	0.	0.	13.52	0.	0.	0.	0.	0.

RADIANCE VALUES ARE IN MICROWATTS CLEAR VA AND SCA ARE IN DEGREES.

TABLE 150

RMS FLUCTUATION AS A FUNCTION OF SCATTERING ANGLE

FILTER 11 INSOL ANGLE 40.0 DEG.

VA / SCA	0	10	20	30	40	50	60	70	80
0	0.	0.	0.	0.	0.	0.	0.	0.	0.
10	0.	0.	0.	0.	0.	0.	0.	0.	0.
20	0.	0.	0.	0.	0.	0.	0.	0.	0.
30	0.	0.	0.	0.	0.	0.	0.	0.	0.
40	0.	0.	0.	0.	0.	0.	0.	0.	0.
50	0.	0.	0.	0.	0.	0.	0.	0.	0.
60	0.	0.	0.	0.	0.	0.	0.	0.	0.
70	0.	0.	0.	0.	0.	0.	0.	0.51	0.58
80	0.	0.	0.	0.	0.	0.	0.30	0.	0.48
90	0.	0.	0.	0.	0.	0.	0.41	0.	0.55
100	0.	0.	0.	0.	0.	0.68	0.74	0.16	0.45
110	0.	0.	0.	0.47	0.	0.79	0.42	0.27	0.16
120	0.	0.	0.41	0.34	0.	0.24	0.30	0.32	0.29
130	0.	0.	0.74	0.50	0.	0.47	0.21	0.32	0.29
140	0.	0.19	0.42	0.54	0.	0.46	0.37	0.23	0.
150	0.	0.44	0.	0.40	0.	0.27	0.62	0.	0.
160	0.	0.40	0.	0.34	0.	0.26	0.39	0.	0.
170	0.	0.	0.	0.28	0.	0.50	0.	0.	0.
180	0.	0.	0.	0.21	0.	0.	0.	0.	0.

RADIANCE VALUES ARE IN MICROWATTS. CLEAR VA AND SCA ARE IN DEGREES.

TABLE 151

NUMBER OF OBSERVATIONS AS A FUNCTION OF SUN AZIMUTH

FILTER 11 INSOL ANGLE 50.0 DEG.

VA / SA	0	10	20	30	40	50	60	70	80
0	0.	0.	0.	0.	0.	0.	0.	221.	0.
10	0.	0.	0.	0.	0.	0.	0.	356.	0.
20	0.	0.	105.	0.	0.	0.	0.	459.	0.
30	0.	0.	310.	0.	0.	0.	205.	417.	0.
40	0.	0.	280.	0.	0.	0.	253.	569.	0.
50	0.	0.	685.	120.	0.	120.	343.	495.	0.
60	0.	105.	944.	105.	0.	0.	2011.	180.	0.
70	0.	0.	536.	0.	119.	0.	343.	0.	0.
80	0.	150.	345.	0.	0.	0.	270.	0.	0.
90	0.	105.	105.	117.	119.	135.	345.	150.	105.
100	0.	120.	120.	105.	133.	0.	359.	705.	0.
110	0.	0.	0.	0.	0.	0.	401.	885.	0.
120	0.	0.	0.	101.	0.	120.	1335.	345.	0.
130	0.	0.	0.	120.	119.	103.	495.	267.	234.
140	0.	125.	101.	115.	0.	105.	0.	349.	149.
150	0.	0.	0.	0.	0.	0.	0.	220.	162.
160	0.	0.	0.	0.	0.	148.	105.	293.	0.
170	0.	0.	0.	0.	0.	0.	0.	225.	0.
180	0.	0.	0.	0.	0.	0.	0.	0.	0.

VA AND SA ARE IN DEGREES. CLEAR

TABLE 152

IR MEAN RADIANCE AS A FUNCTION OF SUN AZIMUTH

FILTER 11 INSOL ANGLE 50.0 DEG.

VA / SA	0	10	20	30	40	50	60	70	80
0	0.	0.	0.	0.	0.	0.	0.	6.61	0.
10	0.	0.	0.	0.	0.	0.	0.	6.14	0.
20	0.	0.	10.31	0.	0.	0.	0.	6.45	0.
30	0.	0.	10.18	0.	0.	0.	8.84	6.22	0.
40	0.	0.	9.72	0.	0.	0.	8.13	5.45	0.
50	0.	0.	9.95	12.81	0.	12.60	8.71	5.96	0.
60	0.	12.73	10.53	12.54	0.	0.	7.62	6.93	0.
70	0.	0.	9.81	0.	12.33	0.	8.57	0.	0.
80	0.	12.18	10.73	0.	0.	0.	10.74	0.	0.
90	0.	12.88	11.60	11.98	11.83	10.88	10.41	10.82	9.77
100	0.	12.68	12.38	12.25	12.83	0.	10.75	8.00	0.
110	0.	0.	0.	0.	0.	0.	9.55	7.52	0.
120	0.	0.	0.	11.58	0.	11.26	9.61	7.99	0.
130	0.	0.	0.	12.54	12.22	11.35	10.14	8.59	6.70
140	0.	11.59	11.48	12.51	0.	12.53	0.	8.80	9.15
150	0.	0.	0.	0.	0.	0.	0.	8.34	8.32
160	0.	0.	0.	0.	0.	11.05	10.51	8.72	0.
170	0.	0.	0.	0.	0.	0.	0.	8.31	0.
180	0.	0.	0.	0.	0.	0.	0.	0.	0.

RADIANCE VALUES ARE IN MICROWATTS. CLEAR VA AND SA ARE IN DEGREES.

TABLE 153

IR RMS FLUCTUATION AS A FUNCTION OF SUN AZIMUTH

FILTER 11 INSOL ANGLE 50.0 DEG.

VA / SA	0	10	20	30	40	50	60	70	80
0	0.	0.	0.	0.	0.	0.	0.	1.18	0.
10	0.	0.	0.	0.	0.	0.	0.	0.32	0.
20	0.	0.	0.54	0.	0.	0.	0.	1.13	0.
30	0.	0.	0.44	0.	0.	0.	1.10	1.29	0.
40	0.	0.	0.56	0.	0.	0.	0.58	0.57	0.
50	0.	0.	1.15	1.47	0.	1.47	1.98	2.38	0.
60	0.	1.32	0.78	1.56	0.	0.	1.13	3.39	0.
70	0.	0.	1.49	0.	2.00	0.	1.90	0.	0.
80	0.	1.70	1.23	0.	0.	0.	2.16	0.	0.
90	0.	1.54	2.04	1.93	2.18	2.15	2.10	2.56	3.58
100	0.	1.49	1.90	1.76	1.44	0.	2.02	2.04	0.
110	0.	0.	0.	0.	0.	0.	0.85	1.27	0.
120	0.	0.	0.	1.54	0.	2.23	0.52	1.83	0.
130	0.	0.	0.	1.41	1.67	1.68	1.21	2.03	2.21
140	0.	1.37	1.17	1.48	0.	1.55	0.	2.10	3.11
150	0.	0.	0.	0.	0.	0.	0.	0.50	2.88
160	0.	0.	0.	0.	0.	0.69	0.82	0.85	0.
170	0.	0.	0.	0.	0.	0.	0.	0.14	0.
180	0.	0.	0.	0.	0.	0.	0.	0.	0.

RADIANCE VALUES ARE IN MICROWATTS. CLEAR VA AND SA ARE IN DEGREES.

TABLE 154

NUMBER OF OBSERVATIONS AS A FUNCTION OF SCATTERING ANGLE

FILTER 11 INSOL ANGLE 50.0 DEG.

VA / SCA	0	10	20	30	40	50	60	70	80
0	0.	0.	0.	0.	0.	0.	0.	0.	0.
10	0.	0.	0.	0.	0.	0.	0.	0.	0.
20	0.	0.	0.	0.	0.	0.	0.	0.	0.
30	0.	0.	0.	0.	0.	0.	0.	0.	0.
40	0.	0.	0.	0.	0.	0.	0.	0.	0.
50	0.	0.	0.	0.	0.	0.	0.	0.	0.
60	0.	0.	0.	0.	0.	0.	0.	1281.	150.
70	0.	0.	0.	0.	0.	0.	0.	953.	145.
80	0.	0.	0.	0.	0.	0.	589.	448.	147.
90	0.	0.	0.	0.	0.	196.	2368.	105.	0.
100	0.	0.	0.	0.	249.	150.	389.	105.	135.
110	0.	0.	915.	285.	203.	105.	480.	1440.	115.
120	0.	0.	2221.	266.	194.	224.	490.	480.	218.
130	428.	712.	359.	237.	163.	120.	1320.	439.	313.
140	231.	496.	163.	161.	149.	149.	824.	545.	227.
150	0.	0.	229.	205.	117.	134.	0.	535.	0.
160	0.	0.	0.	115.	0.	104.	0.	0.	0.
170	0.	0.	0.	0.	0.	0.	0.	0.	0.
180	0.	0.	0.	0.	0.	0.	0.	0.	0.

VA AND SCA ARE IN DEGREES. CLEAR

TABLE 155

IR MEAN RADIANCE AS A FUNCTION OF SCATTERING ANGLE

FILTER 11 INSOL ANGLE 50.0 DEG.

VA / SCA	0	10	20	30	40	50	60	70	80
0	0.	0.	0.	0.	0.	0.	0.	0.	0.
10	0.	0.	0.	0.	0.	0.	0.	0.	0.
20	0.	0.	0.	0.	0.	0.	0.	0.	0.
30	0.	0.	0.	0.	0.	0.	0.	0.	0.
40	0.	0.	0.	0.	0.	0.	0.	0.	0.
50	0.	0.	0.	0.	0.	0.	0.	0.	0.
60	0.	0.	0.	0.	0.	0.	0.	6.12	8.29
70	0.	0.	0.	0.	0.	0.	0.	5.73	10.60
80	0.	0.	0.	0.	0.	0.	8.72	6.69	10.09
90	0.	0.	0.	0.	0.	10.70	7.70	0.	0.
100	0.	0.	0.	0.	11.21	12.30	9.87	0.	9.99
110	0.	0.	9.75	11.69	11.74	11.89	10.49	7.84	10.61
120	0.	0.	10.29	11.98	12.91	11.25	10.38	7.87	6.47
130	12.14	12.40	12.01	12.22	12.22	11.99	9.58	8.46	8.77
140	11.28	11.97	12.23	12.43	11.80	11.13	10.01	8.75	7.19
150	0.	0.	11.70	12.32	12.00	12.50	0.	8.57	0.
160	0.	0.	0.	11.33	0.	10.97	0.	0.	0.
170	0.	0.	0.	0.	0.	0.	0.	0.	0.
180	0.	0.	0.	0.	0.	0.	0.	0.	0.

RADIANCE VALUES ARE IN MICROWATTS. CLEAR VA AND SCA ARE IN DEGREES.

TABLE 156

RMS FLUCTUATION AS A FUNCTION OF SCATTERING ANGLE

FILTER 11 INSOL ANGLE 50.0 DEG.

VA SCA	0	10	20	30	40	50	60	70	80
0	0.	0.	0.	0.	0.	0.	0.	0.	0.
10	0.	0.	0.	0.	0.	0.	0.	0.	0.
20	0.	0.	0.	0.	0.	0.	0.	0.	0.
30	0.	0.	0.	0.	0.	0.	0.	0.	0.
40	0.	0.	0.	0.	0.	0.	0.	0.	0.
50	0.	0.	0.	0.	0.	0.	0.	0.	0.
60	0.	0.	0.	0.	0.	0.	0.	0.62	0.76
70	0.	0.	0.	0.	0.	0.	0.	1.27	3.33
80	0.	0.	0.	0.	0.	0.	1.38	2.96	3.64
90	0.	0.	0.	0.	0.	1.31	1.24	2.21	3.48
100	0.	0.	0.	0.	1.43	1.70	2.32	2.71	3.50
110	0.	0.	0.50	1.56	1.96	2.26	2.12	1.85	3.76
120	0.	0.	1.07	1.79	1.79	2.17	1.84	1.65	2.21
130	1.59	1.57	1.89	1.84	1.83	1.92	0.69	1.96	2.99
140	1.15	1.52	1.59	1.65	1.71	2.00	0.97	1.68	2.35
150	0.	0.	1.24	1.44	1.51	1.54	0.	0.59	0.
160	0.	0.	0.	0.54	0.	0.73	0.	0.	0.
170	0.	0.	0.	0.	0.	0.	0.	0.	0.
180	0.	0.	0.	0.	0.	0.	0.	0.	0.

RADIANCE VALUES ARE IN MICROWATTS. CLEAR VA AND SCA ARE IN DEGREES.

TABLE 157

NUMBER OF OBSERVATIONS AS A FUNCTION OF SUN AZIMUTH

FILTER 11 INSOL ANGLE 60.0 DEG.

VA / SA	0	10	20	30	40	50	60	70	80
0	0.	0.	0.	0.	0.	0.	172.	177.	0.
10	0.	0.	152.	0.	0.	0.	305.	308.	0.
20	0.	0.	168.	0.	0.	0.	408.	371.	0.
30	0.	0.	257.	0.	0.	0.	253.	482.	0.
40	0.	0.	279.	0.	0.	0.	377.	705.	0.
50	0.	0.	251.	0.	0.	0.	452.	320.	0.
60	0.	0.	313.	0.	0.	0.	281.	0.	0.
70	0.	0.	572.	0.	0.	0.	285.	0.	0.
80	0.	0.	728.	0.	0.	0.	266.	0.	0.
90	0.	0.	0.	0.	0.	0.	307.	0.	0.
100	0.	0.	0.	0.	0.	0.	885.	99.	0.
110	0.	0.	0.	0.	0.	0.	306.	0.	0.
120	0.	0.	0.	0.	0.	0.	0.	0.	0.
130	0.	0.	0.	0.	0.	0.	117.	0.	0.
140	0.	0.	0.	0.	0.	0.	0.	0.	0.
150	0.	0.	0.	0.	0.	0.	236.	0.	0.
160	0.	0.	0.	0.	103.	0.	495.	0.	0.
170	0.	0.	0.	0.	0.	0.	406.	0.	0.
180	0.	0.	0.	0.	0.	0.	221.	0.	0.

VA AND SA ARE IN DEGREES. CLEAR

TABLE 158

IR MEAN RADIANCE AS A FUNCTION OF SUN AZIMUTH

FILTER 11 INSOL ANGLE 60.0 DEG.

VA / SA	0	10	20	30	40	50	60	70	80
0	0.	0.	0.	0.	0.	0.	10.61	6.40	0.
10	0.	0.	10.54	0.	0.	0.	10.53	5.64	0.
20	0.	0.	10.47	0.	0.	0.	9.78	5.54	0.
30	0.	0.	9.16	0.	0.	0.	8.96	5.10	0.
40	0.	0.	10.04	0.	0.	0.	9.40	5.45	0.
50	0.	0.	10.08	0.	0.	0.	8.67	5.51	0.
60	0.	0.	8.74	0.	0.	0.	8.29	0.	0.
70	0.	0.	8.23	0.	0.	0.	7.91	0.	0.
80	0.	0.	8.54	0.	0.	0.	7.78	0.	0.
90	0.	0.	0.	0.	0.	0.	8.02	0.	0.
100	0.	0.	0.	0.	0.	0.	7.71	7.01	0.
110	0.	0.	0.	0.	0.	0.	7.87	0.	0.
120	0.	0.	0.	0.	0.	0.	0.	0.	0.
130	0.	0.	0.	0.	0.	0.	8.22	0.	0.
140	0.	0.	0.	0.	0.	0.	0.	0.	0.
150	0.	0.	0.	0.	0.	0.	8.48	0.	0.
160	0.	0.	0.	0.	11.60	0.	9.05	0.	0.
170	0.	0.	0.	0.	0.	0.	10.12	0.	0.
180	0.	0.	0.	0.	0.	0.	10.24	0.	0.

RADIANCE VALUES ARE IN MICROWATTS. CLEAR VA AND SA ARE IN DEGREES.

TABLE 159

IR RMS FLUCTUATION AS A FUNCTION OF SUN AZIMUTH

FILTER 11 INSOL ANGLE 60.0 DEG.

VA / SA	0	10	20	30	40	50	60	70	80
0	0.	0.	0.	0.	0.	0.	1.83	2.37	0.
10	0.	0.	1.49	0.	0.	0.	2.15	1.49	0.
20	0.	0.	1.43	0.	0.	0.	2.02	1.95	0.
30	0.	0.	1.34	0.	0.	0.	1.96	0.92	0.
40	0.	0.	1.21	0.	0.	0.	1.94	1.24	0.
50	0.	0.	1.14	0.	0.	0.	1.76	1.81	0.
60	0.	0.	1.06	0.	0.	0.	1.43	0.	0.
70	0.	0.	1.07	0.	0.	0.	1.47	0.	0.
80	0.	0.	0.57	0.	0.	0.	1.36	0.	0.
90	0.	0.	0.	0.	0.	0.	1.25	0.	0.
100	0.	0.	0.	0.	0.	0.	0.83	2.54	0.
110	0.	0.	0.	0.	0.	0.	1.23	0.	0.
120	0.	0.	0.	0.	0.	0.	0.	0.	0.
130	0.	0.	0.	0.	0.	0.	1.86	0.	0.
140	0.	0.	0.	0.	0.	0.	0.	0.	0.
150	0.	0.	0.	0.	0.	0.	2.40	0.	0.
160	0.	0.	0.	0.	1.12	0.	1.52	0.	0.
170	0.	0.	0.	0.	0.	0.	0.86	0.	0.
180	0.	0.	0.	0.	0.	0.	0.16	0.	0.

RADIANCE VALUES ARE IN MICROWATTS. CLEAR VA AND SA ARE IN DEGREES.

TABLE 160

NUMBER OF OBSERVATIONS AS A FUNCTION OF SCATTERING ANGLE

FILTER 11 INSOL ANGLE 60.0 DEG.

VA SCA	0	10	20	30	40	50	60	70	80
0	0.	0.	0.	0.	0.	0.	0.	0.	0.
10	0.	0.	0.	0.	0.	0.	0.	0.	0.
20	0.	0.	0.	0.	0.	0.	0.	0.	0.
30	0.	0.	0.	0.	0.	0.	0.	0.	0.
40	0.	0.	0.	0.	0.	0.	0.	0.	0.
50	0.	0.	0.	0.	0.	0.	0.	701.	0.
60	0.	0.	0.	0.	0.	0.	0.	1087.	0.
70	0.	0.	0.	0.	0.	0.	1116.	590.	0.
80	0.	0.	0.	0.	0.	126.	844.	0.	0.
90	0.	0.	0.	137.	0.	0.	428.	101.	0.
100	0.	0.	612.	135.	0.	0.	417.	109.	0.
110	0.	163.	1205.	0.	0.	0.	590.	103.	0.
120	210.	205.	1097.	0.	0.	0.	802.	0.	0.
130	111.	270.	114.	0.	0.	0.	0.	0.	0.
140	0.	0.	203.	0.	0.	0.	117.	0.	0.
150	0.	0.	0.	207.	114.	0.	211.	0.	116.
160	0.	0.	0.	0.	189.	0.	525.	127.	0.
170	0.	0.	0.	0.	0.	0.	492.	0.	0.
180	0.	0.	0.	0.	0.	0.	206.	0.	0.

VA AND SCA ARE IN DEGREES. CLEAR

TABLE 161

IR MEAN RADIANCE AS A FUNCTION OF SCATTERING ANGLE

FILTER 11 INSOL ANGLE 60.0 DEG.

VA / SCA	0	10	20	30	40	50	60	70	80
0	0.	0.	0.	0.	0.	0.	0.	0.	0.
10	0.	0.	0.	0.	0.	0.	0.	0.	0.
20	0.	0.	0.	0.	0.	0.	0.	0.	0.
30	0.	0.	0.	0.	0.	0.	0.	0.	0.
40	0.	0.	0.	0.	0.	0.	0.	0.	0.
50	0.	0.	0.	0.	0.	0.	0.	5.60	0.
60	0.	0.	0.	0.	0.	0.	0.	5.48	0.
70	0.	0.	0.	0.	0.	0.	9.87	5.58	0.
80	0.	0.	0.	0.	0.	10.67	8.85	0.	0.
90	0.	0.	0.	11.86	0.	0.	7.98	6.82	0.
100	0.	0.	9.74	12.25	0.	0.	7.88	6.97	0.
110	0.	12.09	9.33	0.	0.	0.	7.75	7.44	0.
120	12.44	12.62	8.68	0.	0.	0.	7.76	0.	0.
130	12.18	12.43	11.38	0.	0.	0.	0.	0.	0.
140	0.	0.	12.27	0.	0.	0.	8.22	0.	0.
150	0.	0.	0.	12.19	12.31	0.	7.88	0.	10.74
160	0.	0.	0.	0.	11.63	0.	8.87	9.86	0.
170	0.	0.	0.	0.	0.	0.	10.05	0.	0.
180	0.	0.	0.	0.	0.	0.	10.23	0.	0.

RADIANCE VALUES ARE IN MICROWATTS. CLEAR VA AND SCA ARE IN DEGREES.

TABLE 162

RMS FLUCTUATION AS A FUNCTION OF SCATTERING ANGLE

FILTER 11 INSOL ANGLE 60.0 DEG.

VA SCA	0	10	20	30	40	50	60	70	80
0	0.	0.	0.	0.	0.	0.	0.	0.	0.
10	0.	0.	0.	0.	0.	0.	0.	0.	0.
20	0.	0.	0.	0.	0.	0.	0.	0.	0.
30	0.	0.	0.	0.	0.	0.	0.	0.	0.
40	0.	0.	0.	0.	0.	0.	0.	0.	0.
50	0.	0.	0.	0.	0.	0.	0.	1.58	0.
60	0.	0.	0.	0.	0.	0.	0.	1.61	0.
70	0.	0.	0.	0.	0.	0.	2.07	1.85	0.
80	0.	0.	0.	0.	0.	1.49	1.80	0.	0.
90	0.	0.	0.	1.40	0.	0.	1.32	3.37	0.
100	0.	0.	1.40	1.28	0.	0.	1.46	2.64	0.
110	0.	1.13	1.52	0.	0.	0.	0.79	2.82	0.
120	1.09	1.03	1.10	0.	0.	0.	1.02	0.	0.
130	1.09	1.09	2.03	0.	0.	0.	0.	0.	0.
140	0.	0.	1.03	0.	0.	0.	1.86	0.	0.
150	0.	0.	0.	1.09	1.17	0.	2.12	0.	0.
160	0.	0.	0.	0.	1.06	0.	1.91	2.30	2.41
170	0.	0.	0.	0.	0.	0.	0.83	0.	0.
180	0.	0.	0.	0.	0.	0.	0.16	0.	0.

RADIANCE VALUES ARE IN MICROWATTS. CLEAR VA AND SCA ARE IN DEGREES.

TABLE 163

NUMBER OF OBSERVATIONS AS A FUNCTION OF SUN AZIMUTH

FILTER 11 INSOL ANGLE 70.0 DEG.

VA / SA	0	10	20	30	40	50	60	70	80
0	0.	0.	0.	0.	0.	0.	0.	0.	0.
10	0.	0.	0.	0.	0.	0.	0.	234.	0.
20	0.	0.	0.	0.	0.	0.	0.	236.	0.
30	0.	0.	0.	0.	0.	366.	0.	284.	0.
40	0.	0.	0.	0.	105.	448.	0.	255.	0.
50	0.	0.	0.	0.	135.	132.	0.	285.	0.
60	0.	0.	0.	0.	0.	0.	0.	255.	0.
70	0.	0.	0.	0.	0.	0.	0.	345.	0.
80	0.	0.	0.	0.	120.	0.	0.	210.	0.
90	0.	0.	0.	0.	105.	210.	0.	255.	0.
100	0.	0.	0.	0.	105.	236.	0.	238.	0.
110	0.	0.	0.	0.	120.	195.	0.	735.	0.
120	0.	0.	0.	0.	164.	150.	0.	315.	0.
130	0.	0.	0.	0.	135.	126.	0.	0.	0.
140	0.	0.	0.	0.	265.	120.	0.	0.	0.
150	0.	0.	0.	0.	230.	105.	0.	0.	0.
160	0.	0.	0.	0.	220.	0.	0.	120.	0.
170	0.	0.	0.	0.	294.	150.	0.	0.	0.
180	0.	0.	0.	0.	0.	0.	0.	0.	0.

VA AND SA ARE IN DEGREES. CLEAR

TABLE 164

IR MEAN RADIANCE AS A FUNCTION OF SUN AZIMUTH

FILTER 11 INSOL ANGLE 70.0 DEG.

VA / SA	0	10	20	30	40	50	60	70	80
0	0.	0.	0.	0.	0.	0.	0.	0.	0.
10	0.	0.	0.	0.	0.	0.	0.	4.92	0.
20	0.	0.	0.	0.	0.	0.	0.	5.06	0.
30	0.	0.	0.	0.	0.	7.37	0.	5.93	0.
40	0.	0.	0.	0.	5.83	7.24	0.	6.52	0.
50	0.	0.	0.	0.	5.97	6.78	0.	5.68	0.
60	0.	0.	0.	0.	0.	0.	0.	5.40	0.
70	0.	0.	0.	0.	0.	0.	0.	5.76	0.
80	0.	0.	0.	0.	6.06	0.	0.	5.52	0.
90	0.	0.	0.	0.	6.00	6.49	0.	5.65	0.
100	0.	0.	0.	0.	6.01	6.53	0.	5.37	0.
110	0.	0.	0.	0.	5.99	6.29	0.	5.84	0.
120	0.	0.	0.	0.	6.03	5.90	0.	5.64	0.
130	0.	0.	0.	0.	5.21	6.35	0.	0.	0.
140	0.	0.	0.	0.	6.03	6.40	0.	0.	0.
150	0.	0.	0.	0.	5.28	6.10	0.	0.	0.
160	0.	0.	0.	0.	5.28	0.	0.	4.62	0.
170	0.	0.	0.	0.	5.43	5.93	0.	0.	0.
180	0.	0.	0.	0.	0.	0.	0.	0.	0.

RADIANCE VALUES ARE IN MICROWATTS. CLEAR VA AND SA ARE IN DEGREES.

TABLE 165

IR RMS FLUCTUATION AS A FUNCTION OF SUN AZIMUTH

FILTER 11 INSOL ANGLE 70.0 DEG.

VA / SA	0	10	20	30	40	50	60	70	80
0	0.	0.	0.	0.	0.	0.	0.	0.	0.
10	0.	0.	0.	0.	0.	0.	0.	1.02	0.
20	0.	0.	0.	0.	0.	0.	0.	1.81	0.
30	0.	0.	0.	0.	0.	0.28	0.	1.68	0.
40	0.	0.	0.	0.	0.31	0.33	0.	1.16	0.
50	0.	0.	0.	0.	0.18	0.17	0.	1.28	0.
60	0.	0.	0.	0.	0.	0.	0.	0.52	0.
70	0.	0.	0.	0.	0.	0.	0.	1.05	0.
80	0.	0.	0.	0.	0.48	0.	0.	1.06	0.
90	0.	0.	0.	0.	0.58	0.21	0.	0.79	0.
100	0.	0.	0.	0.	0.71	0.33	0.	0.87	0.
110	0.	0.	0.	0.	0.65	0.90	0.	0.53	0.
120	0.	0.	0.	0.	0.59	0.97	0.	0.86	0.
130	0.	0.	0.	0.	0.64	0.63	0.	0.	0.
140	0.	0.	0.	0.	0.56	0.62	0.	0.	0.
150	0.	0.	0.	0.	0.36	0.61	0.	0.	0.
160	0.	0.	0.	0.	0.41	0.	0.	0.18	0.
170	0.	0.	0.	0.	0.58	0.53	0.	0.	0.
180	0.	0.	0.	0.	0.	0.	0.	0.	0.

RADIANCE VALUES ARE IN MICROWATTS. CLEAR VA AND SA ARE IN DEGREES.

TABLE 166

NUMBER OF OBSERVATIONS AS A FUNCTION OF SCATTERING ANGLE

FILTER 11 INSOL ANGLE 70.0 DEG.

VA SCA	0	10	20	30	40	50	60	70	80
0	0.	0.	0.	0.	0.	0.	0.	0.	0.
10	0.	0.	0.	0.	0.	0.	0.	0.	0.
20	0.	0.	0.	0.	0.	0.	0.	0.	0.
30	0.	0.	0.	0.	0.	0.	0.	0.	0.
40	0.	0.	0.	0.	0.	0.	0.	0.	0.
50	0.	0.	0.	0.	0.	0.	0.	504.	0.
60	0.	0.	0.	0.	0.	0.	0.	475.	180.
70	0.	0.	0.	0.	0.	0.	0.	420.	0.
80	0.	0.	0.	0.	195.	871.	0.	420.	0.
90	0.	0.	0.	0.	326.	195.	0.	285.	0.
100	0.	0.	0.	0.	150.	0.	0.	285.	0.
110	0.	0.	0.	0.	225.	330.	0.	418.	0.
120	0.	0.	0.	0.	165.	266.	0.	825.	0.
130	0.	0.	0.	0.	239.	240.	0.	105.	0.
140	0.	0.	0.	0.	355.	141.	0.	0.	0.
150	0.	0.	0.	0.	568.	180.	0.	135.	0.
160	0.	0.	0.	0.	275.	180.	0.	105.	0.
170	0.	0.	0.	0.	0.	119.	0.	0.	0.
180	0.	0.	0.	0.	0.	0.	0.	0.	0.

VA AND SCA ARE IN DEGREES. CLEAR

TABLE 167

IR MEAN RADIANCE AS A FUNCTION OF SCATTERING ANGLE

FILTER 11 INSOL ANGLE 70.0 DEG.

VA SCA	0	10	20	30	40	50	60	70	80
0	0.	0.	0.	0.	0.	0.	0.	0.	0.
10	0.	0.	0.	0.	0.	0.	0.	0.	0.
20	0.	0.	0.	0.	0.	0.	0.	0.	0.
30	0.	0.	0.	0.	0.	0.	0.	0.	0.
40	0.	0.	0.	0.	0.	0.	0.	0.	0.
50	0.	0.	0.	0.	0.	0.	0.	5.39	0.
60	0.	0.	0.	0.	0.	0.	0.	5.73	5.14
70	0.	0.	0.	0.	0.	0.	0.	5.72	0.
80	0.	0.	0.	0.	6.01	7.27	0.	5.60	0.
90	0.	0.	0.	0.	5.89	6.73	0.	5.72	0.
100	0.	0.	0.	0.	6.01	0.	0.	5.50	0.
110	0.	0.	0.	0.	6.04	6.53	0.	5.46	0.
120	0.	0.	0.	0.	6.08	6.50	0.	5.92	0.
130	0.	0.	0.	0.	5.90	5.97	0.	4.29	0.
140	0.	0.	0.	0.	5.78	6.18	0.	0.	0.
150	0.	0.	0.	0.	5.31	6.29	0.	4.50	0.
160	0.	0.	0.	0.	5.63	5.58	0.	4.65	0.
170	0.	0.	0.	0.	0.	6.07	0.	0.	0.
180	0.	0.	0.	0.	0.	0.	0.	0.	0.

RADIANCE VALUES ARE IN MICROWATTS. CLEAR VA AND SCA ARE IN DEGREES.

TABLE 168

RMS FLUCTUATION AS A FUNCTION OF SCATTERING ANGLE

FILTER 11 INSOL ANGLE 70.0 DEG.

VA / SCA	0	10	20	30	40	50	60	70	80
0	0.	0.	0.	0.	0.	0.	0.	0.	0.
10	0.	0.	0.	0.	0.	0.	0.	0.	0.
20	0.	0.	0.	0.	0.	0.	0.	0.	0.
30	0.	0.	0.	0.	0.	0.	0.	0.	0.
40	0.	0.	0.	0.	0.	0.	0.	0.	0.
50	0.	0.	0.	0.	0.	0.	0.	1.75	0.
60	0.	0.	0.	0.	0.	0.	0.	1.16	1.35
70	0.	0.	0.	0.	0.	0.	0.	1.34	0.
80	0.	0.	0.	0.	0.22	0.33	0.	0.91	0.
90	0.	0.	0.	0.	0.30	0.28	0.	1.01	0.
100	0.	0.	0.	0.	0.26	0.	0.	0.87	0.
110	0.	0.	0.	0.	0.53	0.27	0.	0.81	0.
120	0.	0.	0.	0.	0.67	0.60	0.	0.50	0.
130	0.	0.	0.	0.	0.65	0.95	0.	0.26	0.
140	0.	0.	0.	0.	0.73	0.66	0.	0.	0.
150	0.	0.	0.	0.	0.45	0.59	0.	0.40	0.
160	0.	0.	0.	0.	0.55	0.43	0.	0.25	0.
170	0.	0.	0.	0.	0.	0.47	0.	0.	0.
180	0.	0.	0.	0.	0.	0.	0.	0.	0.

RADIANCE VALUES ARE IN MICROWATTS. CLEAR VA AND SCA ARE IN DEGREES.

TABLE 169

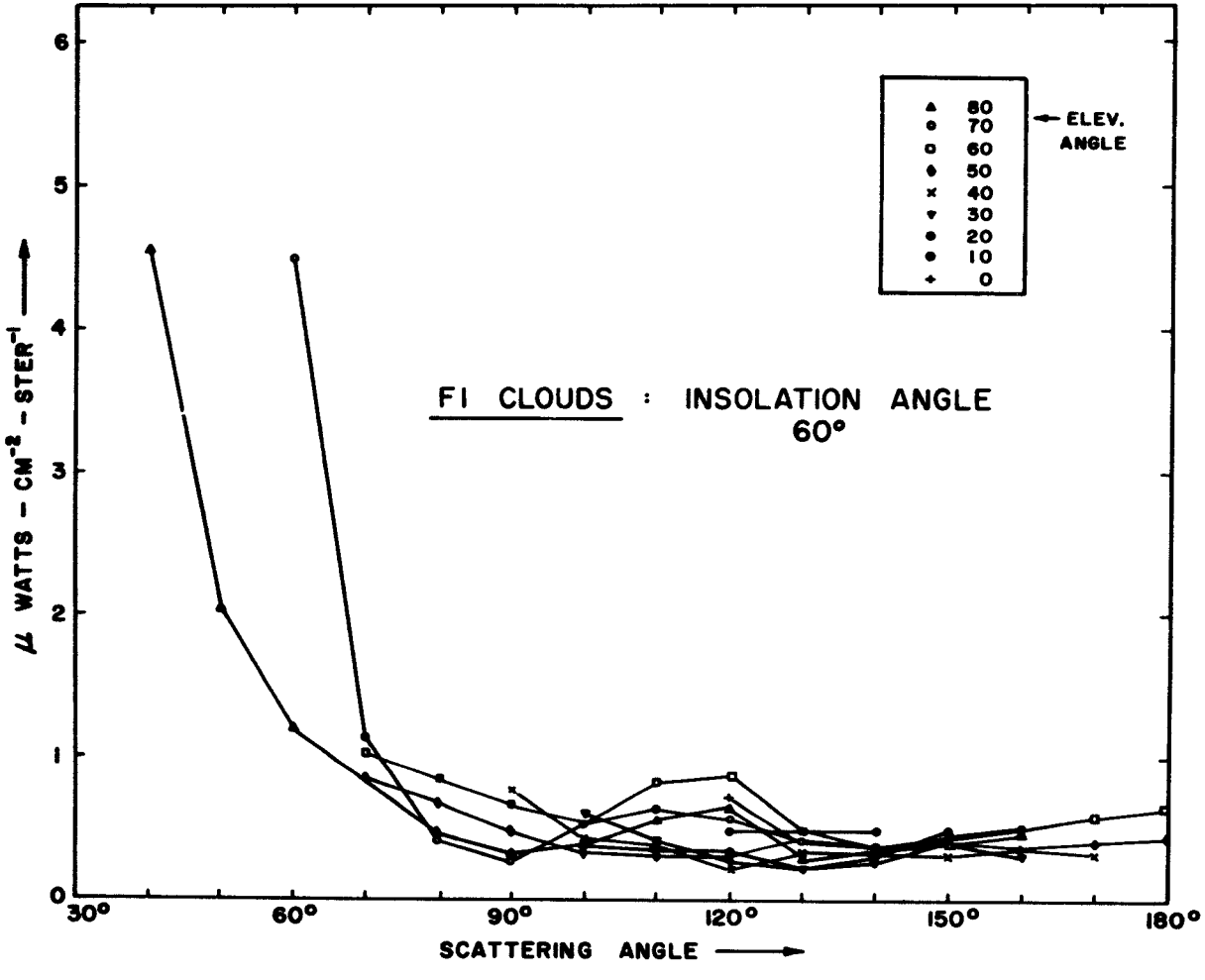


Figure 6. Mean Radiance as a Function of Scattering Angle

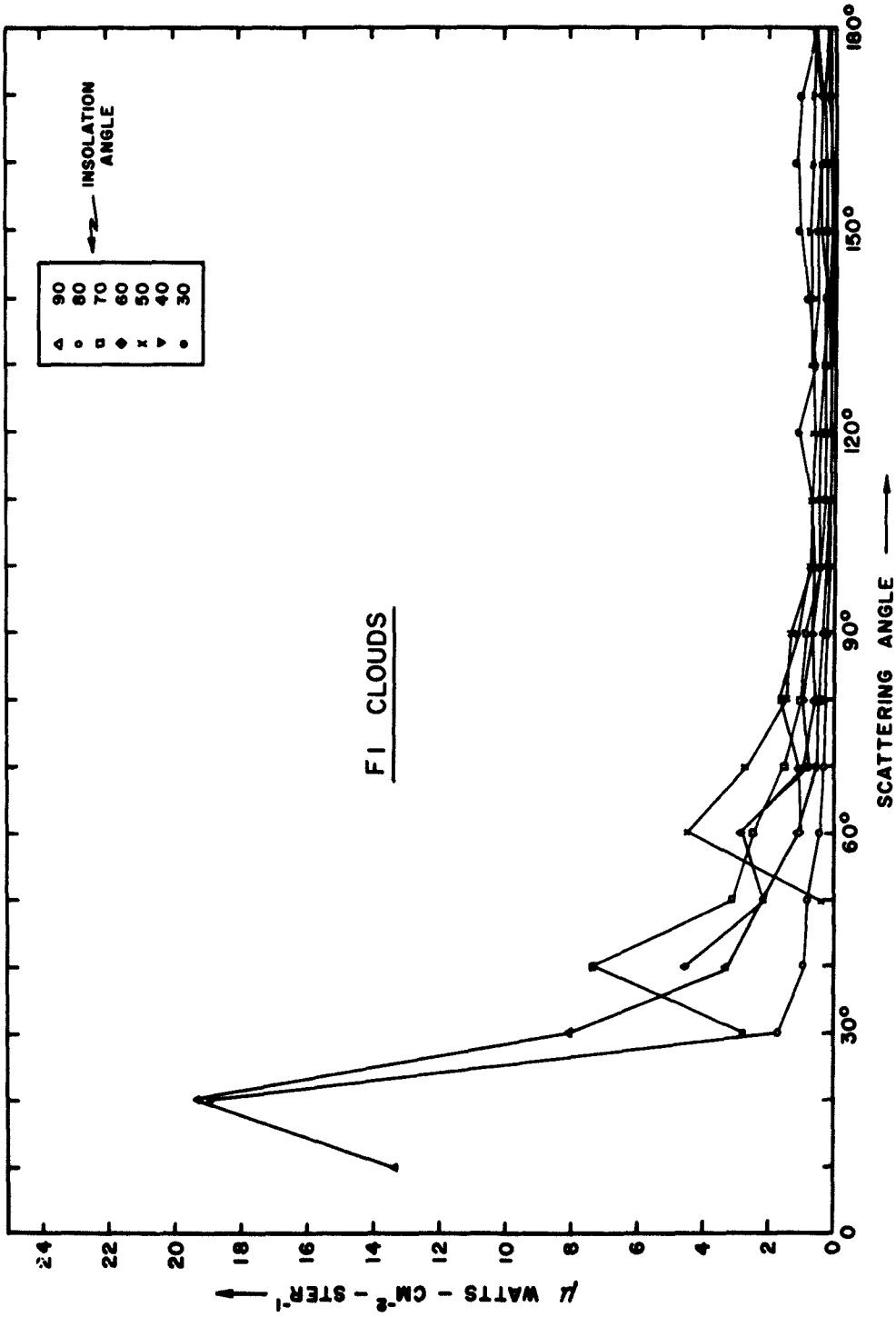


Figure 7. Mean Radiance as a Function of Scattering Angle at Various Insolation Angles

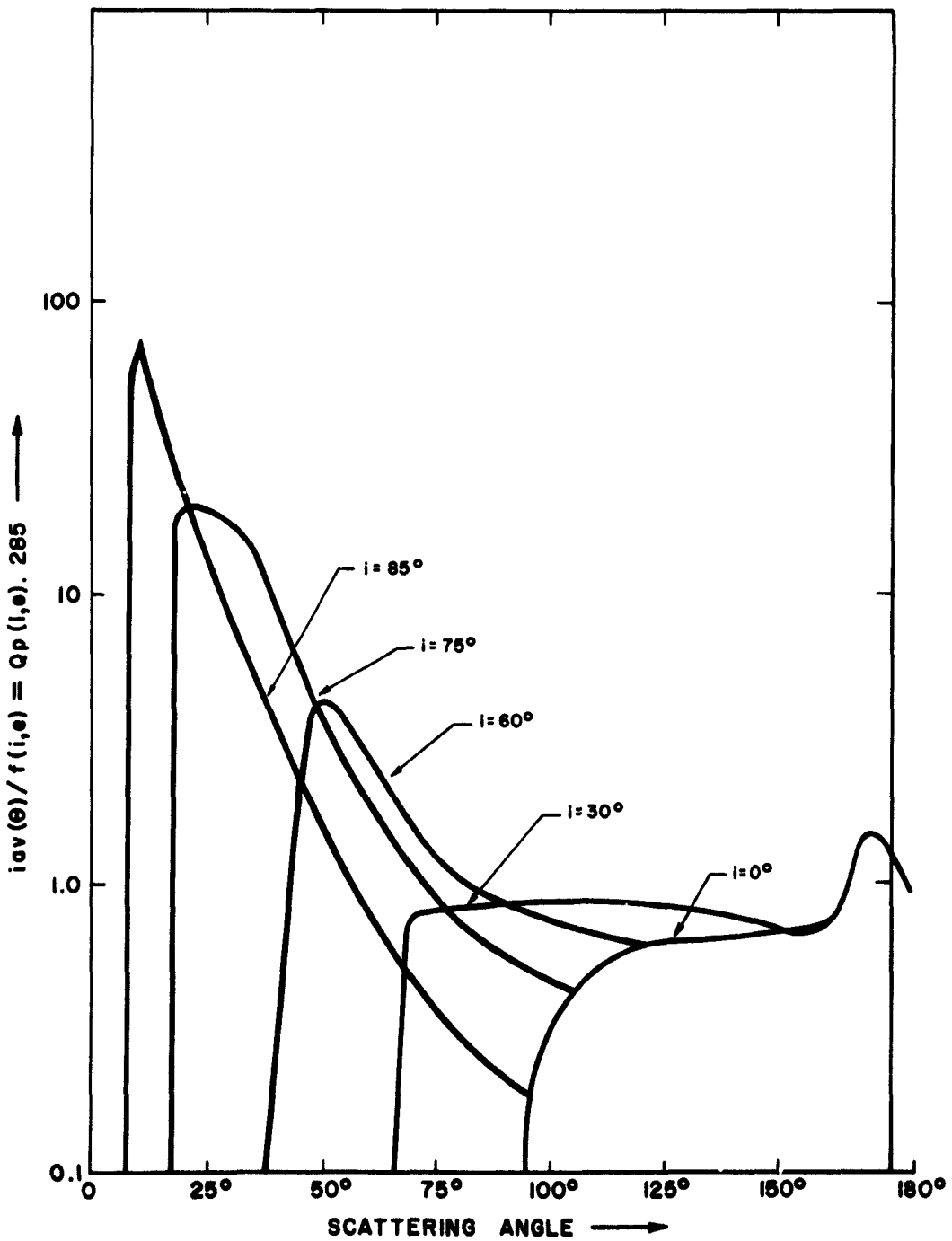


Figure 8. Scattering from a Large Planar Cloud as Given by Bauer[3]

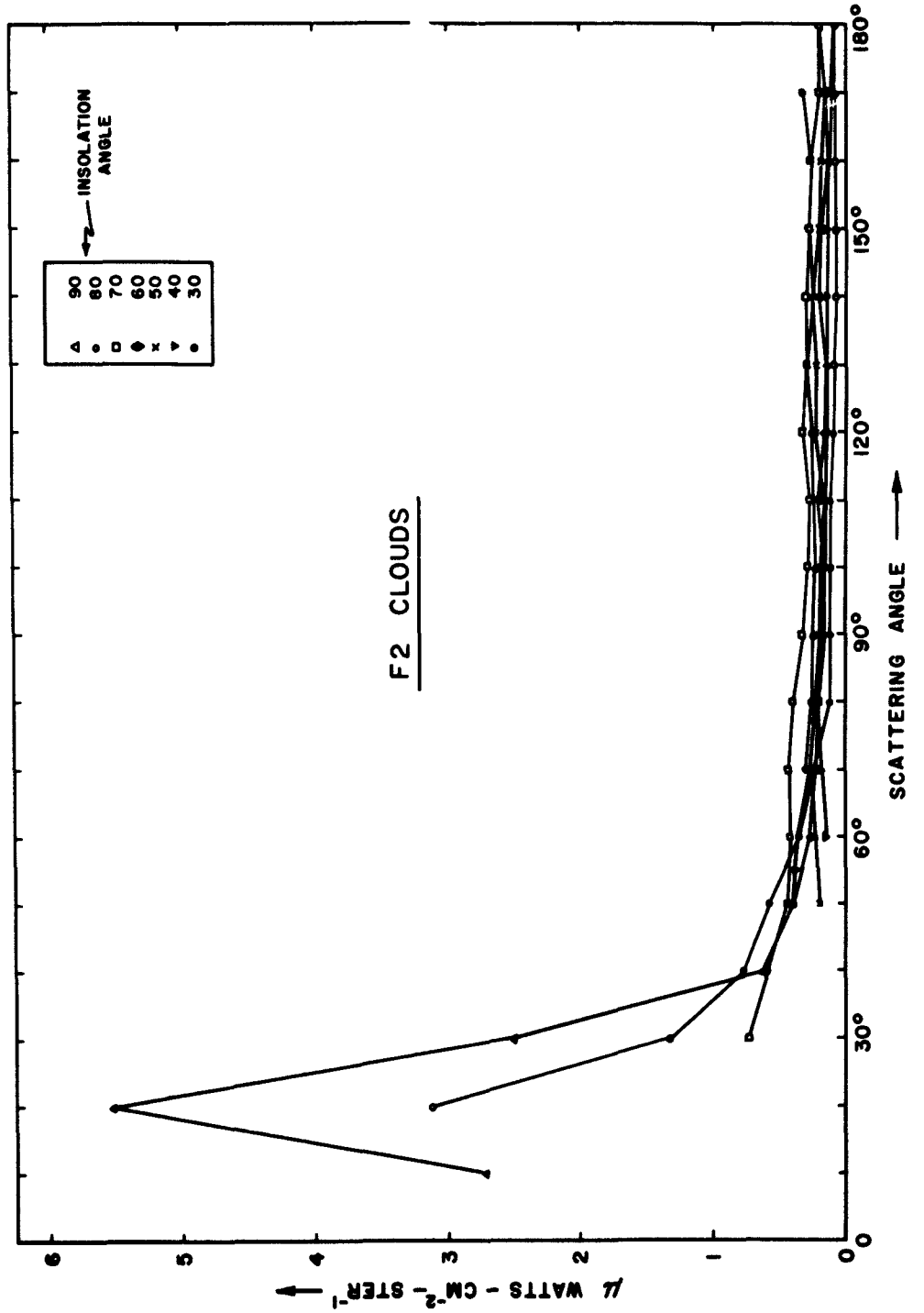


Figure 9. Mean Radiance as a Function of Scattering Angle at Various Insolation Angles

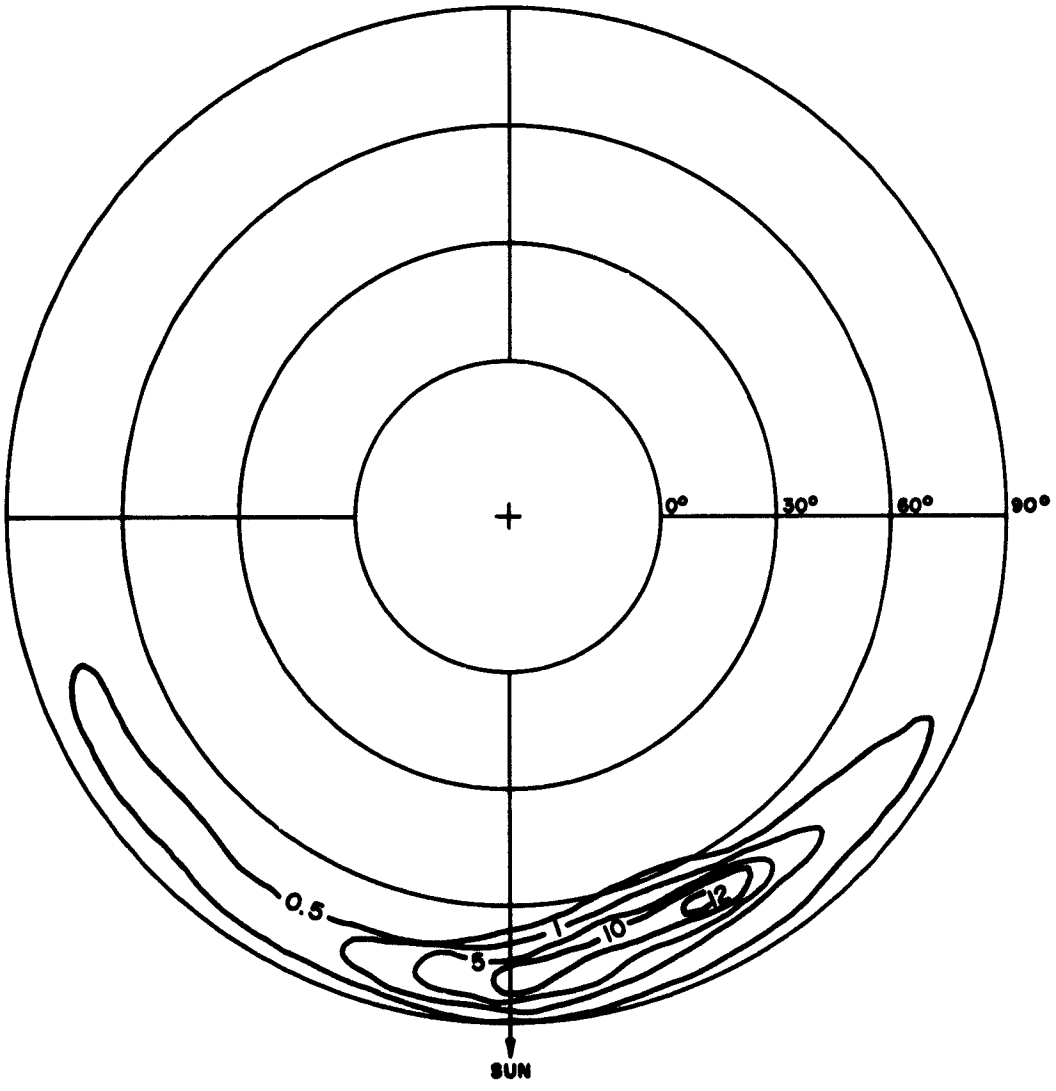


Figure 10. Isoradiance Plot (Means)
Filter 2 Insolation Angle 90° Clouds
All Values are in Microwatt cm^{-2} $ster^{-1}$

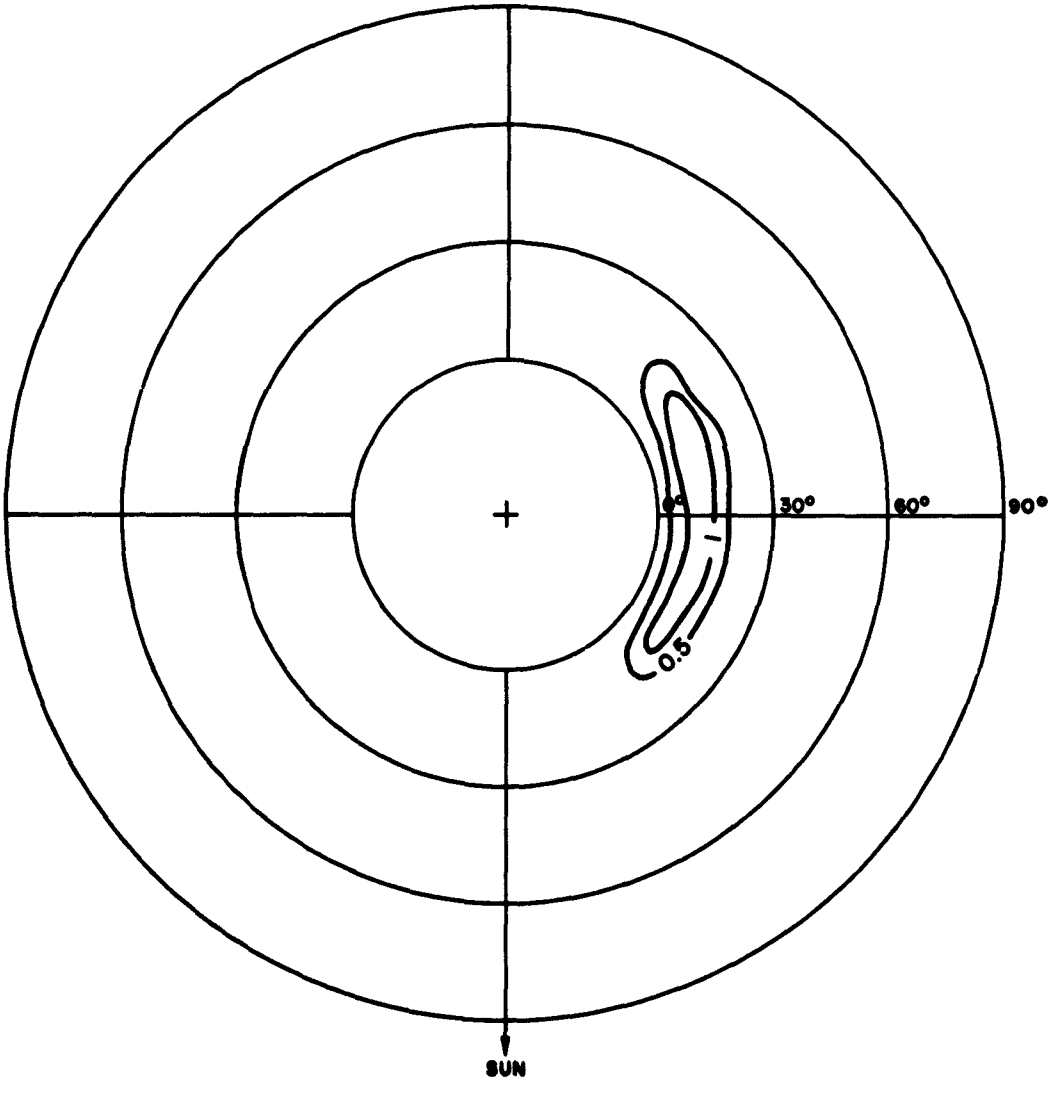


Figure 12. Isoradiance Plot (Means)
Filter 2 Insolation Angle 50° Clouds
All Values are in Microwatt cm^{-2} $ster^{-1}$

As Viewed Through the Filter

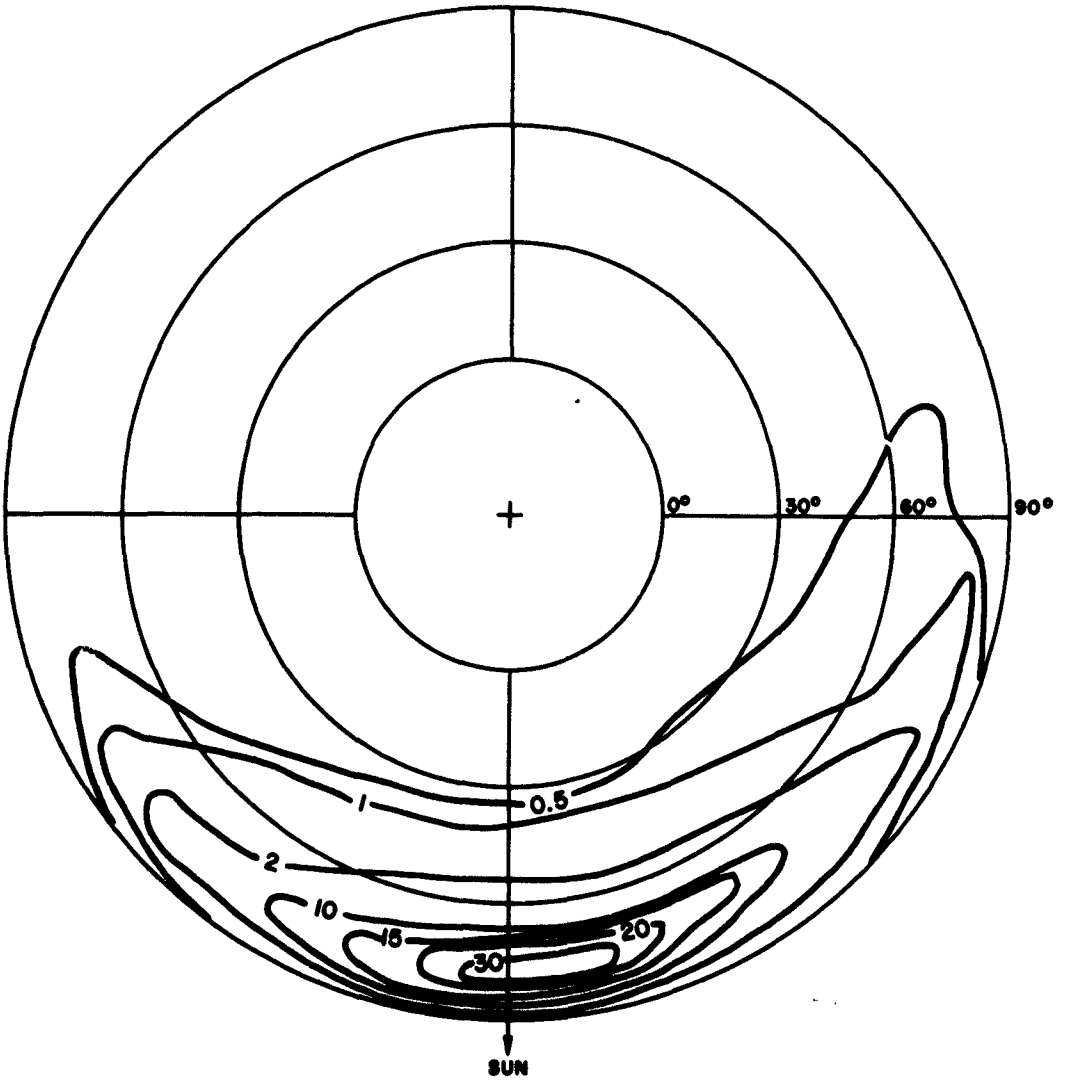


Figure 13. Isoradiance Plot (Means)
Filter 1 Insolation Angle 90° Clouds
All Values are in Microwatt cm^{-2} $ster^{-1}$

As Viewed Through the Filter

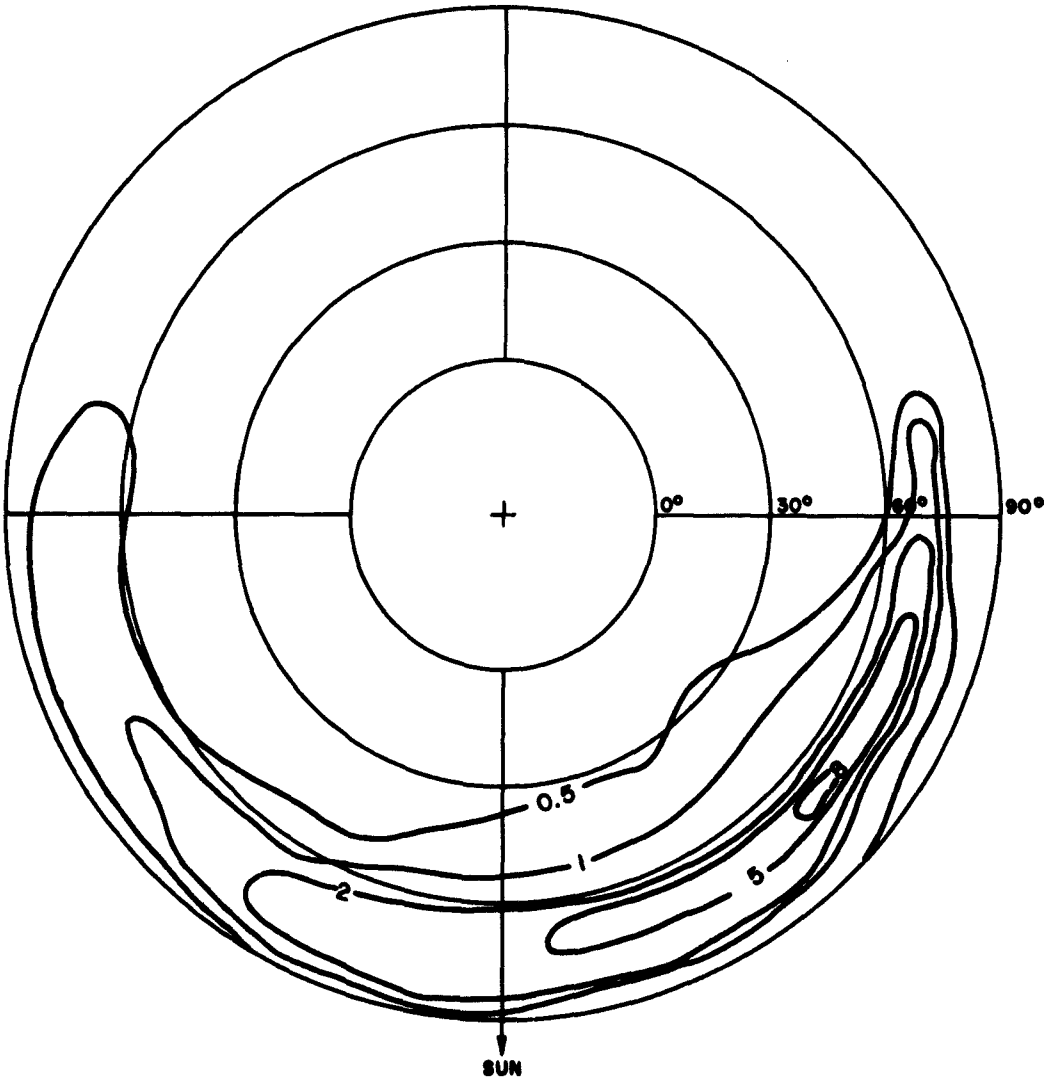


Figure 14. Isoradiance Plot (Means)
Filter 1 Insolation Angle 70° Clouds
All Values are in Microwatt cm^{-2} $ster^{-1}$

As Viewed Through the Filter

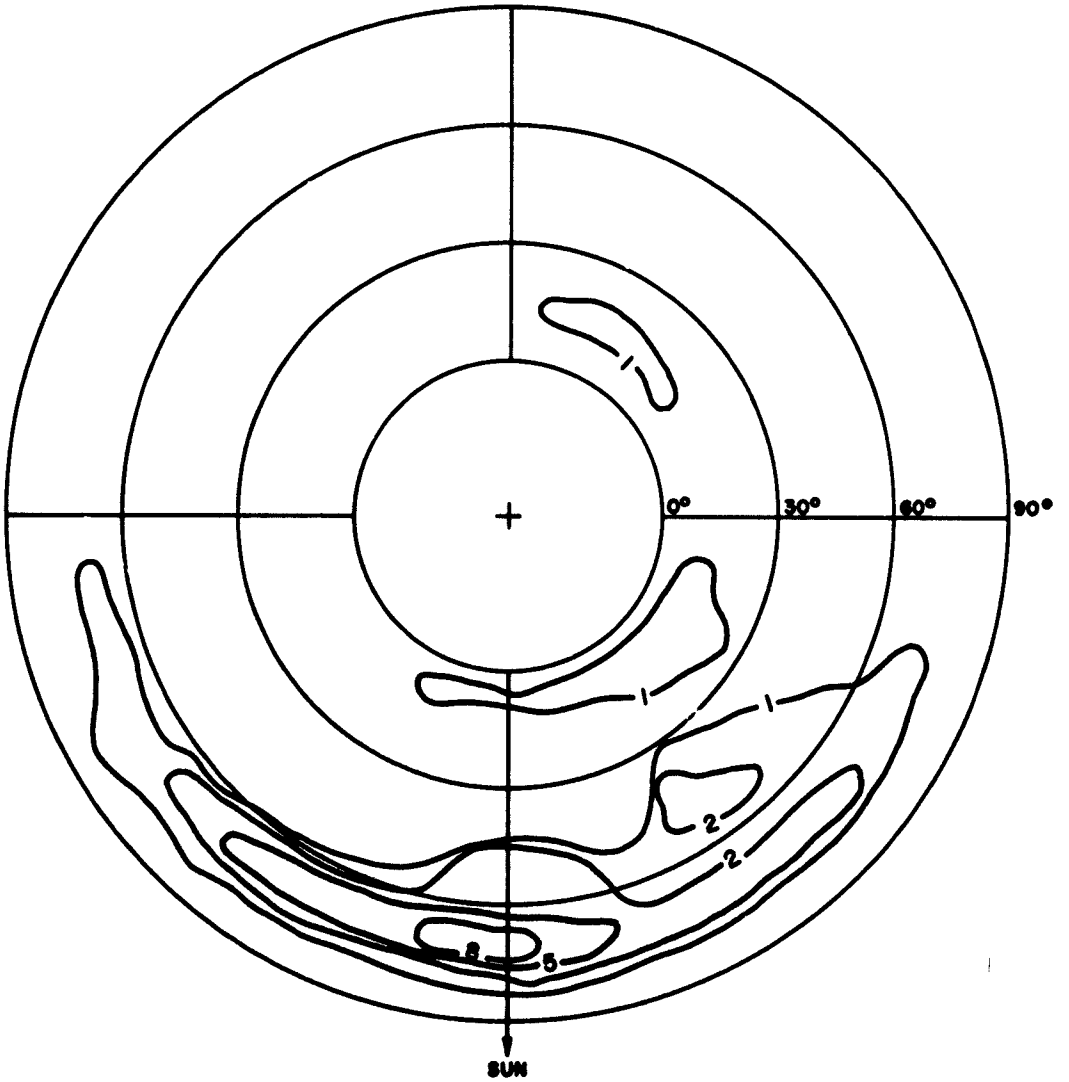


Figure 15. Isoradiance Plot (Means)
Filter 1 Insolation Angle 50° Clouds
All Values are in Microwatt cm^{-2} $ster^{-1}$

As Viewed Through the Filter

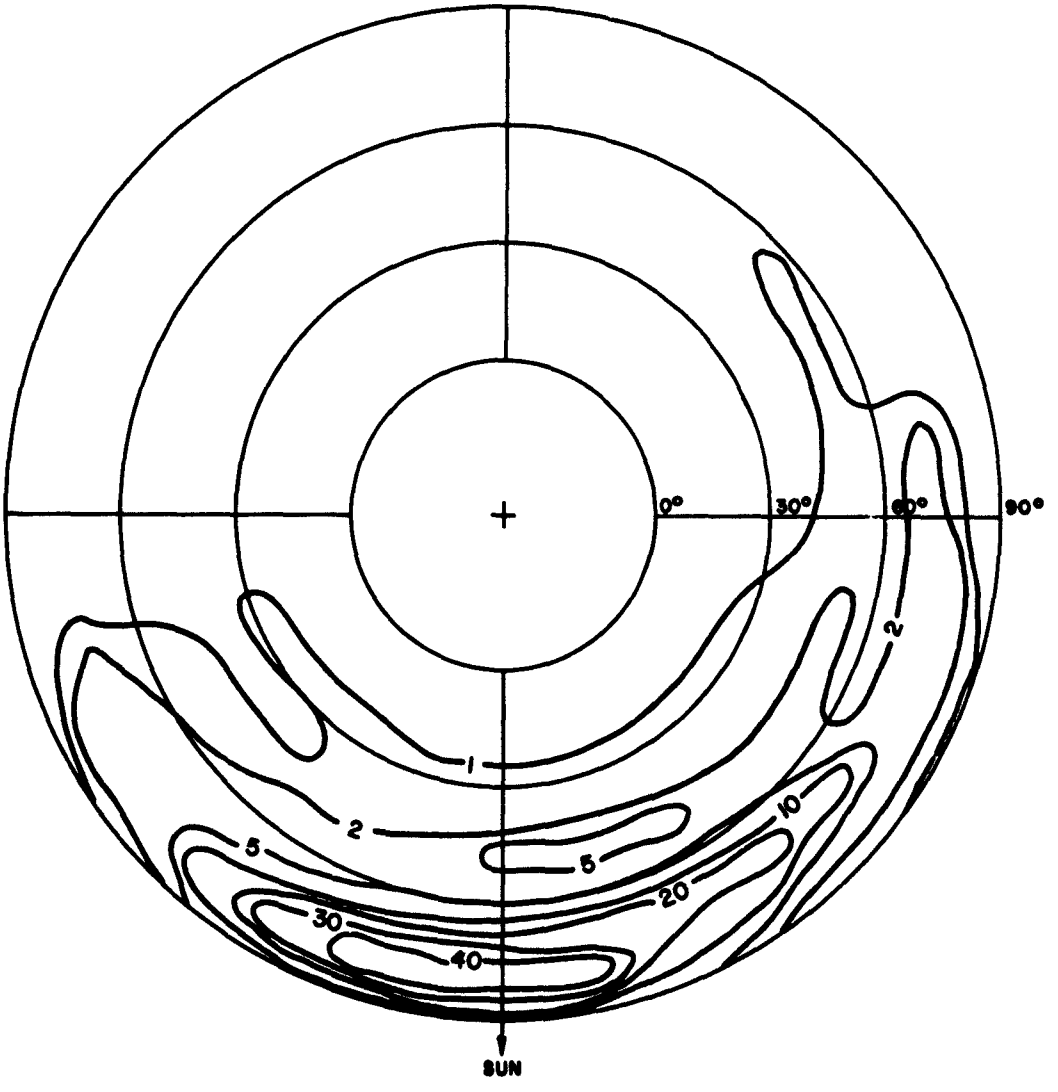


Figure 16. Isoradiance Plot (Maximums)
Filter 1 Insolation Angle 90° Clouds
All Values are in Microwatt cm^{-2} $ster^{-1}$
As Viewed Through the Filter

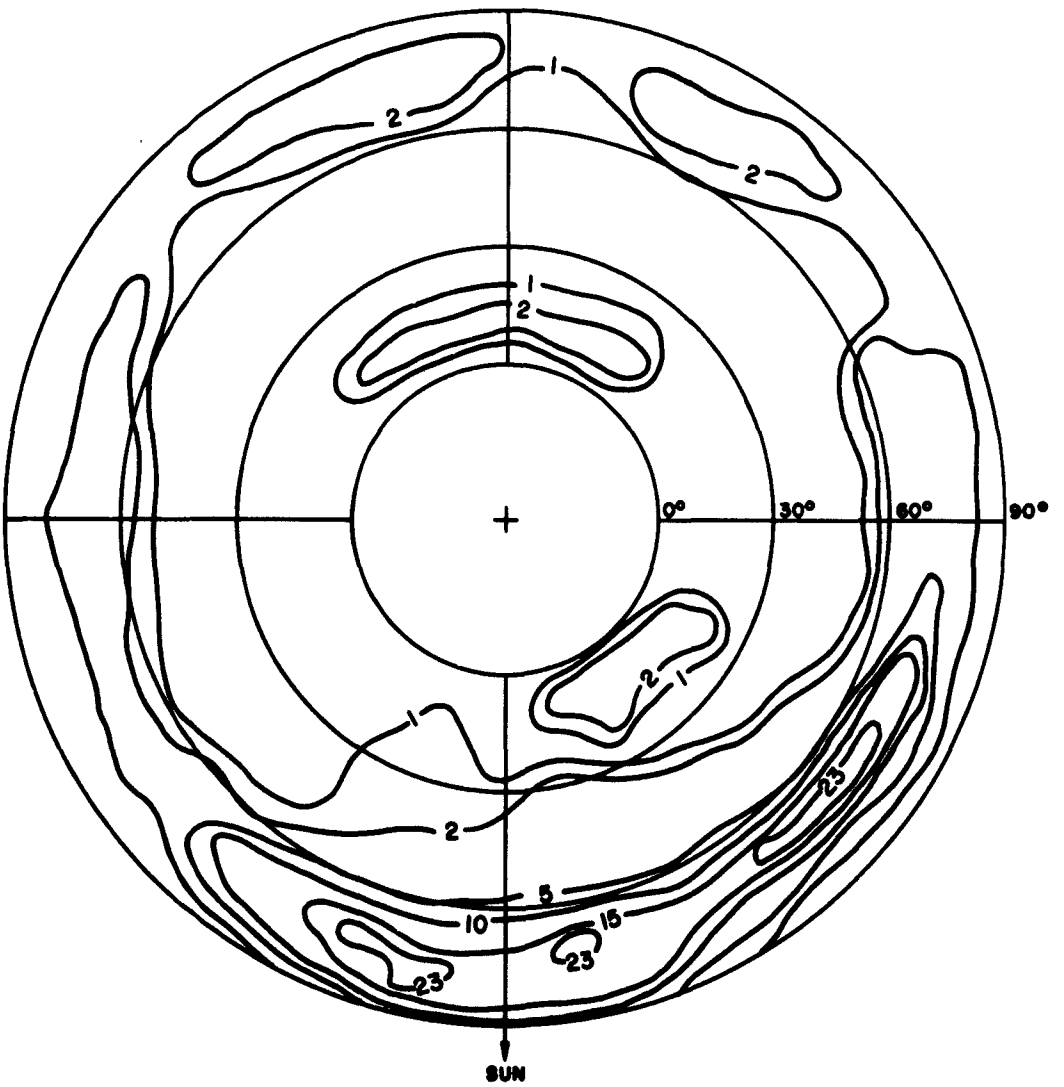


Figure 17. Isoradiance Plot (Maximums)
Filter 1 Insolation Angle 70° Clouds
All Values are in Microwatt cm^{-2} $ster^{-1}$

As Viewed Through the Filter

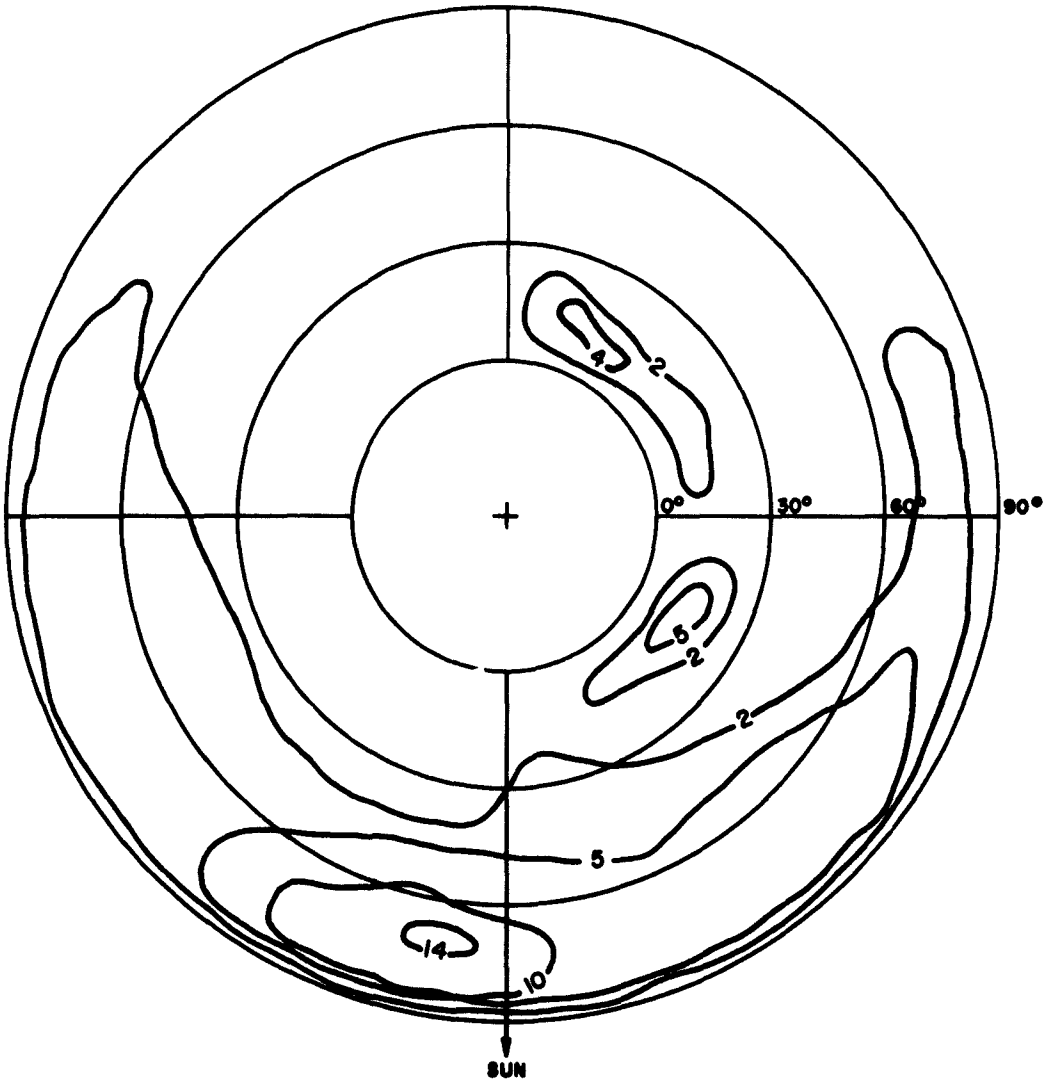


Figure 18. Isoradiance Plot (Maximums)
Filter 1 Insolation Angle 50° Clouds
All Values are in Microwatt cm^{-2} $ster^{-1}$

As Viewed Through the Filter

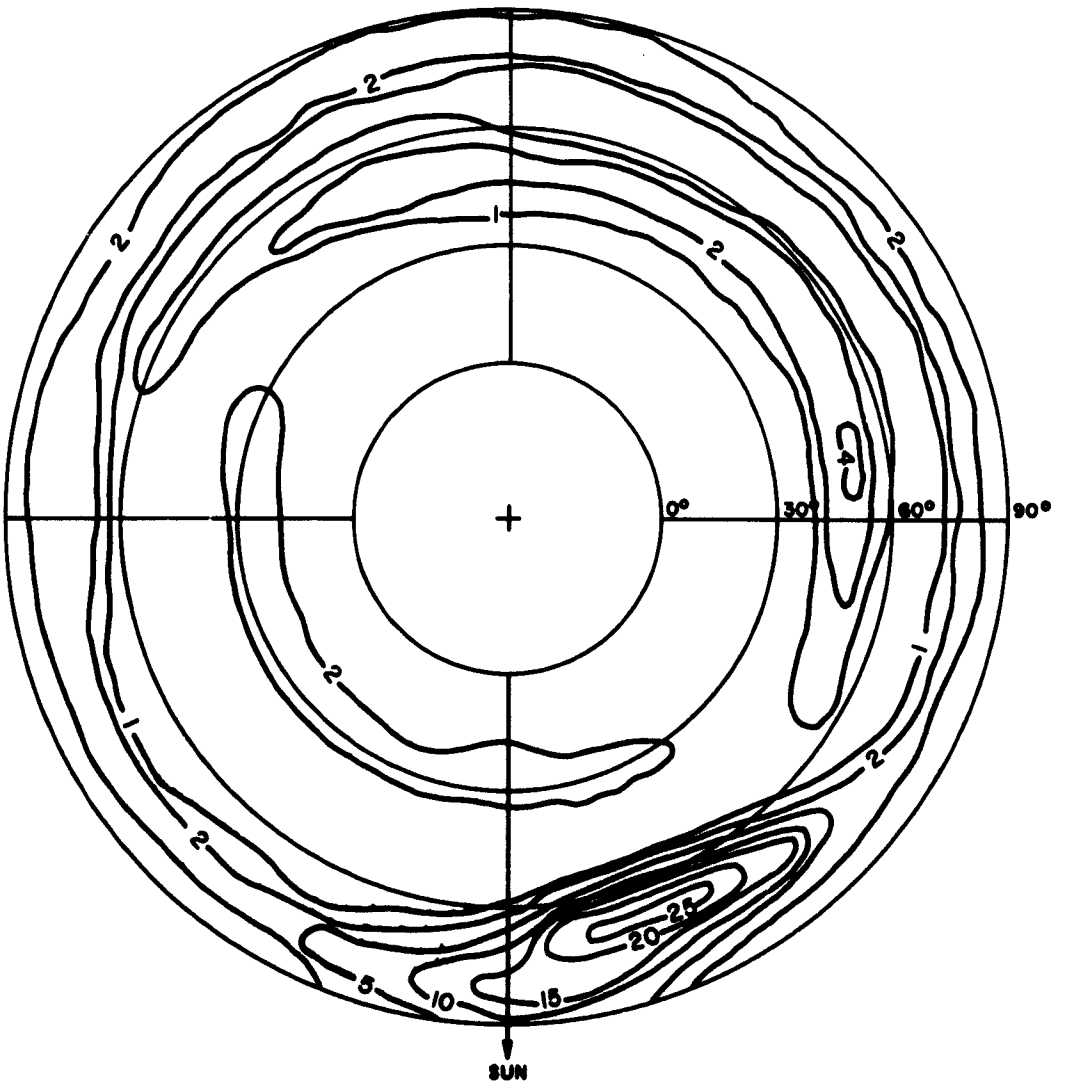


Figure 19. Isoradiance Plot (Maximums)
Filter 2 Insolation Angle 90° Clouds
All Values are in Microwatt cm^{-2} $ster^{-1}$
As Viewed Through the Filter

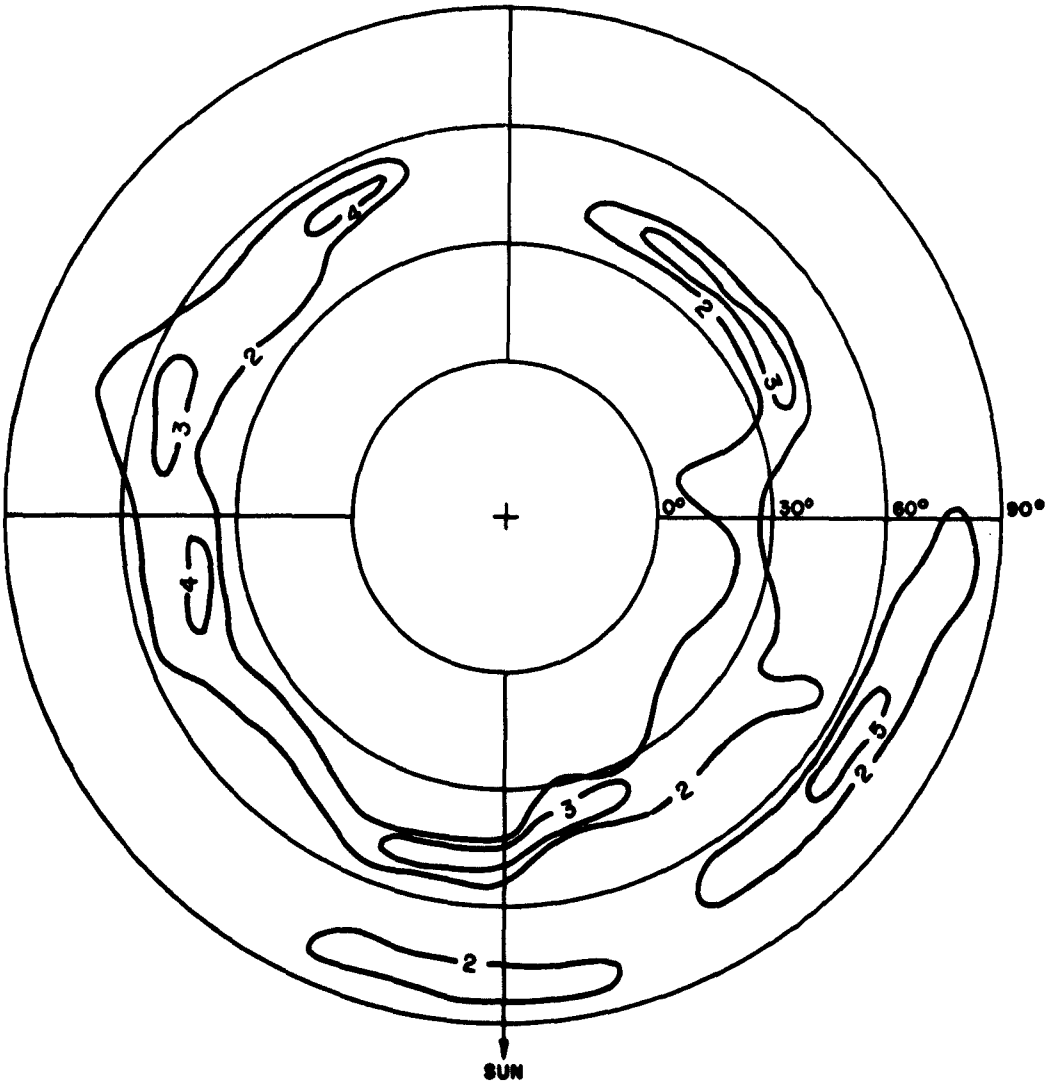


Figure 20. Isoradiance Plot (Maximums)
Filter 2 Insolation Angle 70° Clouds
All Values are in Microwatt cm^{-2} $ster^{-1}$
As Viewed Through the Filter

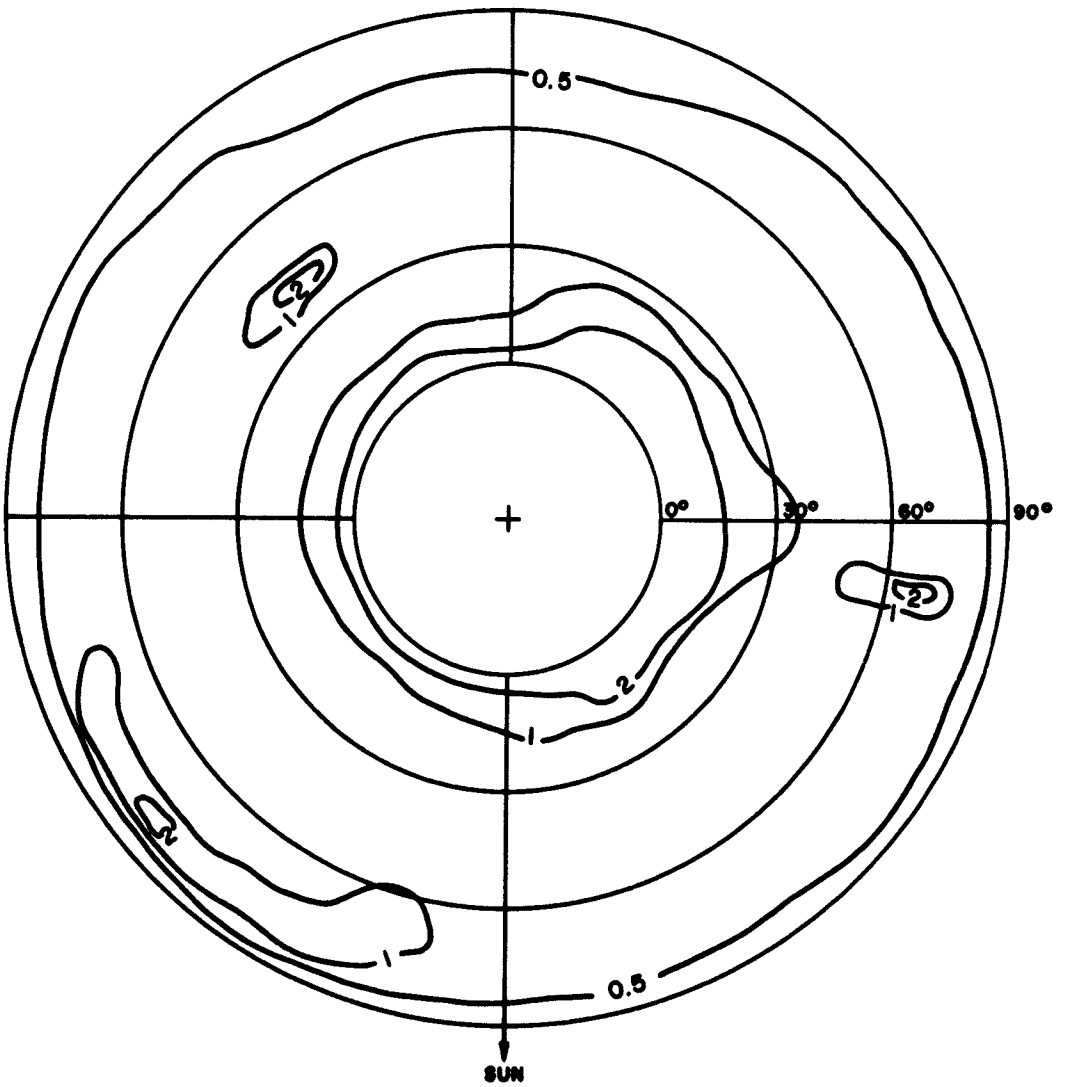


Figure 21. Isoradiance Plot (Maximums)
Filter 2 Insolation Angle 50° Clouds
All Values are in Microwatt cm^{-2} $ster^{-1}$
As Viewed Through the Filter

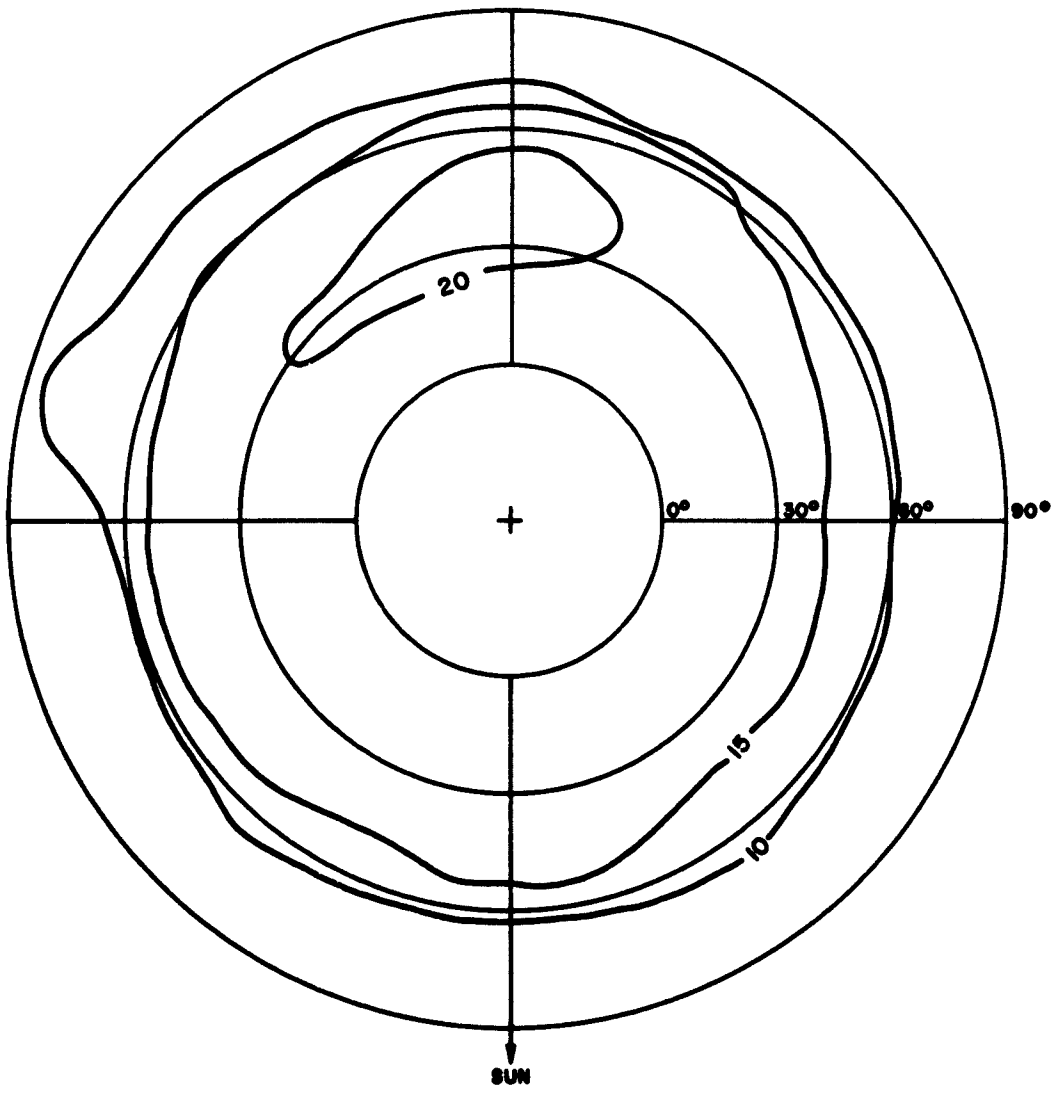


Figure 22. Isoradiance Plot (Means)
Filter 11 Insolation Angle 30° Clouds
All Values are in Microwatt cm^{-2} $ster^{-1}$
As Viewed Through the Filter

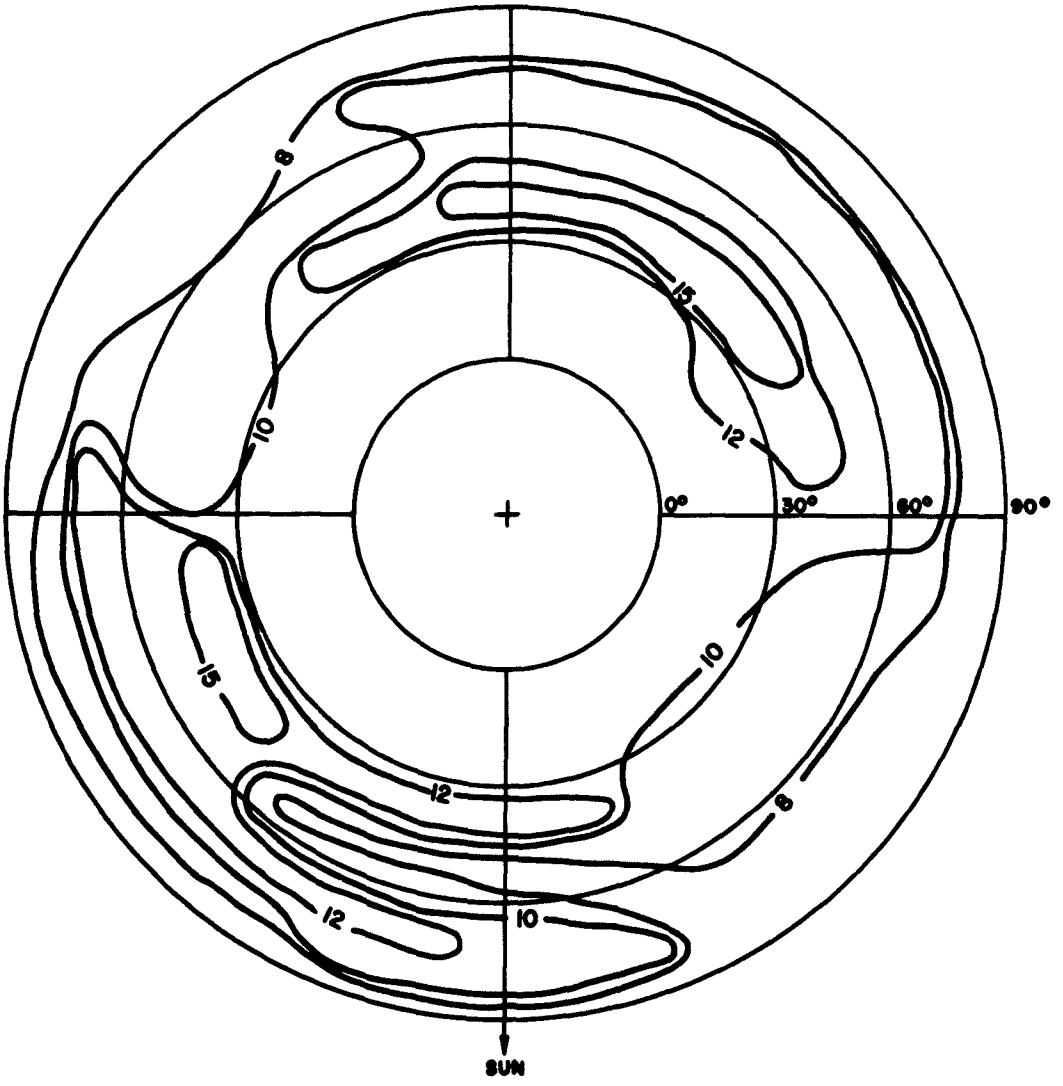


Figure 23. Isoradiance Plot (Means)
Filter 11 Insolation Angle 50° Clouds
All Values are in Microwatt cm^{-2} $ster^{-1}$
As Viewed Through the Filter

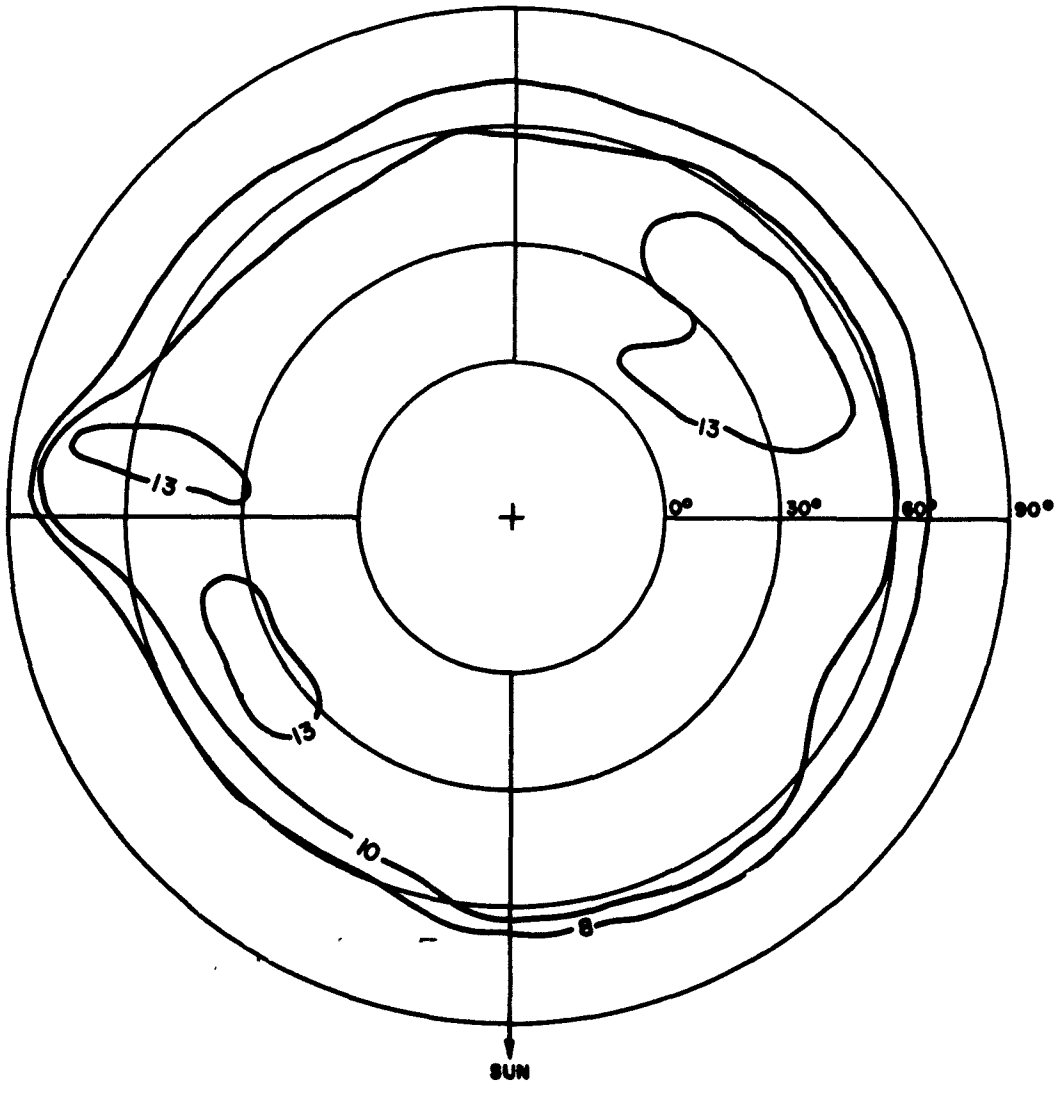


Figure 24. Isoradiance Plot (Means)
Filter 11 Insolation Angle 50° Clear
All Values are in Microwatt cm^{-2} $ster^{-1}$

As Viewed Through the Filter

Denver Research Institute, University of Denver, Denver, Colorado 80210. Report No. DRI 2149 Radiance of the Earth in Selected Wavelength Intervals As Observed from High Altitude. Final Report, 31 March, 1964. Unclassified Report. This report presents the data concerning the radiance of the earth in the 2.7μ and 4.3μ wavelength region as observed from (over)	1. Infrared Background From High Altitudes I. Contract AF33 (616)-7633 II. Denver Research Institute, University of Denver, Denver, Colorado, 80210 III. David G. Murcray	Denver Research Institute, University of Denver, Denver, Colorado 80210. Report No. DRI 2149 Radiance of the Earth in Selected Wavelength Intervals As Observed from High Altitude. Final Report, 31 March, 1964. Unclassified Report. This report presents the data concerning the radiance of the earth in the 2.7μ and 4.3μ wavelength region as observed from (over)	1. Infrared Background From High Altitudes I. Contract AF33 (616)-7633 II. Denver Research Institute, University of Denver, Denver, Colorado, 80210 III. David G. Murcray
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